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# THE MEDICAL AGE

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## ORIGINAL CONTRIBUTIONS.

### PHASES OF DIPHTHERIA FREQUENTLY OVERLOOKED.

BY M. HEINBERG, M.D., PHILADELPHIA.

It is not hard for the physician to recognize a typical case of diphtheria. The odor of the patient is characteristic; the pallor of the skin and lips shows grave infection; the hoarse voice, the inspiratory stridor and retraction of the suprasternal notch, the obstructed nares and lips, the fetid exudate covering the tonsils, arches of the palate, uvula, and pharynx, all mean diphtheria. Then, of course, the subsequent finding of the characteristic bacilli completes the picture if the clinician is so situated that this bacteriological investigation can be made.

But many cases are found which are mild in character devoid of constitutional symptoms, and with little local manifestation. This phenomenon is due, according to Abbott, to the fact that typical cases of any disease are often rarer than the modified forms; that what may prove to be a highly virulent infection in one individual may almost be a trivial matter in another; and that a consideration of the phenonenon of infection always comprehends not only the specific exciting factor, but the equally important one of vital resistance possessed by the invaded animal organism as well.

Definite pathogenic bacilli under favorable conditions produce definite pathological lesions, but that they produce these results in all cases is not true. In persons who are temporarily or permanently immune, no effect at all may be noticed. Virulent bacilli are often found in healthy people who are in attendance upon cases of disease. For example, at the Presbyterian Hospital in Philadelphia during an outbreak of diphtheria, cultures were taken from the throats of the attending nurses. On January 17, 1901, cultures from seventeen patients and two nurses, not ill with diphtheria, showed Klebs-Loeffler bacilli in five patients and

one nurse. On January 26 cultures were taken from four nurses and ten patients; three nurses showed pure cultures of Klebs-Loeffler bacilli, and three patients the presence of bacilli in good numbers. At no time did any of these people show any signs of diphtheria. So that undoubtedly the Klebs-Loeffler bacillus may exist in apparently healthy throats and actually healthy people.

Bacteriologists like Abbott believe now that mild cases of diphtheria do not necessarily come from the invasion of feebly virulent bacilli. Mild cases just as often contain fully virulent organisms, and are for this reason as great a menace to the health of the community as are the severer cases.

The term pseudodiphtheria bacillus produces confusion in the mind of the profession. The former test for the true bacillus of diphtheria was the existence of the morphological and cultural characteristics of the diphtheria bacillus, which are also capable of destroying the life of a guinea-pig. All organisms similar to this bacillus in morphology and biology which would not kill a guinea-pig were regarded as "pseudodiphtheria bacilli." This opinion is losing ground with bacteriologists, who now know that the genuine bacillus fluctuates in the degree of its virulence; so that the term "psuedodiphtheria bacilli" should be restricted to those bacilli which can be differentiated from the genuine form without taking into consideration the question of virulence at all.

The immunity from antitoxin lasts only about three weeks; the bacilli may live for months, hence this point must be remembered in immunizing patients or those exposed to the disease. As to the mode of the action of antitoxin, there are two theories at present. The French school believe that antitoxin stimulates vital reaction in the organism, while the Germans teach that there is a chemical interaction between the toxin and the antitoxin, and that the reaction which takes place *in vitro* is identical with that in the organism. The weight of evidence is largely in favor of the German theory. This reaction is a distinct quantitative one, in which a definite quantity of antitoxin prevents a definite amount of poison taking effect. As there is no present method of determining the toxicity of the bacillus in the blood or the toxin, there is no accurate method of calculating the dose, and hence the only hope of successful therapy is to prescribe the remedy in large doses, repeated as frequently as may be necessary to produce the desired effect. It is better in doubtful cases to give the antitoxin without waiting for the diagnosis.

Packard reports a case which shows distinctly the danger of the toxin of diphtheria upon the myocardium. There is danger

of acute dilatation of the heart from the very beginning of the attack. Packard's case is very instructive. How long the cardiac weakness lasts it is impossible to say, except by observing in each individual case the amount of disturbance of the heart's action produced by progressively increasing bodily effort. A case under my care a few years ago may be worth reciting in this connection. A young lady from another city was visiting at the house of one of my patients. One of the servants contracted diphtheria from a source which could not be determined. She was put to bed, had a skilled nurse, and recovered promptly and completely, although her attack was one of a fair degree of severity. The guest in some way contracted diphtheria from the maid. She had a slight attack without constitutional or local disturbance, and with prompt disappearance of all manifestations of the disease after one large injection of antitoxin. When she was taken ill a nurse was obtained, who, while she had graduated from a perfectly reputable school, was not known to me, and was only accepted because of the fact that none of the nurses on my list were at the time disengaged. About a week after the subsidence of all the manifestations of illness, excepting for a little irregularity of the pulse on turning in bed, the nurse was directed to help the patient to a sofa which was drawn to the side of the bed. That evening I was sent for hurriedly, and when I reached the house I found the patient with a rapid, running, irregular pulse, much precordial distress, and considerable mental anxiety. Examination showed that the area of cardiac dulness extended too far to the right and to the left, but complete absence of murmur. On questioning I found that the patient had overpersuaded the nurse, and had been allowed to sit up for at least half an hour trying on a portion of a dress. A repentant and wiser nurse soon left the house with a negative recommendation to the Nurses' Directory. The patient was in bed for several weeks before the heart regained its equilibrium, then gradually began to move about, but for eighteen months was under medical observation by a physician in her own city because of continued irregularity of cardiac action upon any unusual exertion. Of course, the graver the case the more the danger of such harmful action of the toxin upon the cardiac muscle, yet it is not in the grave cases alone that the danger exists, as is evidenced by the above case, which was in no sense severe or long continued.

The value of antitoxin as an immunizing agent has been well verified. Biggs has collected 17,516 cases, of which 129 were mildly attacked in thirty days; 20 were attacked after thirty days; and yet in all these cases there was the remarkable record of only two deaths. A comparison of the statistics of the four

principal cities of the United States shows that in Chicago the death-rate from diphtheria per 100,000 of the population for the ten years from 1886 to 1896 was 12; from 1896 to 1898 it dropped to 5.2. In New York the death-rate from diphtheria from 1886 to 1894 per 100,000 of the population was 15.1; from 1896 to 1898 it was 7.1. In Boston from 1886 to 1894 the rate was 11.8; from 1896 to 1898 it was 10.9. In Philadelphia the rate from 1886 to 1894 was 10.1; from 1896 to 1898 it was 10.7.

Since diphtheria is extremely contagious and the bacillus a hardy bug, thorough isolation of the patient is necessary. Not only this, but all children exposed to contagion should be quarantined for two weeks, and all coming in contact with the patient must remember that they can carry contagion. The nurse in attendance should wear wash dresses, and a cap covering the hair completely; on leaving the room she must thoroughly disinfect herself. The physician must remember that he can carry contagion, and hence should wear a gown of rubber or linen with cap on his head. He should wash his face and hands on leaving with such a disinfectant as a solution of carbolic acid or lysol. The room selected for the patient should be at the top of the house, opening where practicable into another room, preferably a bath-room. The windows of this anteroom should be kept open most of the time. All entrance to the sick-room should be through this antechamber. The other door of the sick-room should be kept locked and all openings stuffed with cotton. Everything possible should be taken out, and old linen rags used in place of handkerchiefs and burned immediately. All bed linen and personal linen should be soaked in disinfectants before being removed from the anteroom, and all excreta should be disinfected with a sublimate solution. All plates, cups, forks, spoons, etc., should be washed in carbolic acid solution, and the nurse should eat in the anteroom. Afterwards the room should be washed with a disinfectant and fumigated with formalin.

Antiseptic gargles should be given to all members of the family, such as diluted solutions of corrosive sublimate one to ten thousand, weak carbolic acid solutions, diluted chlorine water, etc. Alkaline antiseptic sprays should be used for the nose. Isolate the patient for three weeks from beginning of attack, or until the bacillus disappears after two examinations.

In nasal diphtheria care must be taken to see that this region receives local treatment; many cases begin in the nose, and are even wholly confined to this organ. An atomizer may be used, but a syringe is better. To use a syringe, the patient should be recumbent with the head turned to one side. The fluid should be injected into the upper nostril, returning through the other

nostril or the mouth. All solutions should be bloodwarm. When the child resists, use the form of local treatment it will stand the best without too much forcing. The solutions to be selected should be those which check rather than those that kill bacterial growths, for the latter are too powerful. Mild alkaline antiseptic sprays are often sufficient. Solutions of boric acid, borax, papoid, tryspin in a solution of ℥j to ℥j, bichloride 1-to-5000, peroxide of hydrogen, etc., are all excellent. For pharyngeal diphtheria various solutions may be used. In addition to the above, tincture of the chloride of iron, glycerin, and water is excellent.

In laryngeal diphtheria the local treatment must largely be by inhalation; not steam, but "water vapor" is useful in this connection. Enough vapor must be generated, however. A gentle simmering of a pan of water in a large room is of no use. The child should be surrounded by a croup tent and the air kept moist by a kettle or steam atomizer. Home-made croup tents can be constructed by tying a broomstick upright at each corner of a crib, connecting the tops by cords, and throwing blankets over the framework. A small A-shaped opening is left near the head, and here the vapor is to be introduced.

For general treatment, iron and mercury are the old standbys. But alcohol is the best for supporting treatment, for it acts happily and can be pushed to a great extent. Strychnine is also well borne where there is an increasing lack of tone of the pulse or fear of cardiac failure.

These cover some of the points outside of the routine treatment by antitoxin.

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## A CONTRIBUTION TO THE STUDY OF SUICIDE.

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At all times and among all peoples there have been men who have by their own free act and deed put an end to their terrestrial existence. Among the Brahmans and Buddhists suicide was prevalent, their religious doctrines favoring, nay even encouraging it. They regarded terrestrial existence as a mere threshold to a more blessed region; hence dissolution was an object most desirable to attain. In early Egypt, too, suicide was not uncommon; indeed, it was frequently regarded even honorable. Thus, when Rameses the Great became blind he deliberately curtailed

his earthly career. Among the Jews suicide was very little practiced. Inasmuch as the doctrine of a future world was hardly known among the ancient Hebrews, they endeavored to make the most and the best of this world. Thus, the Pentateuch only relates four instances of suicide: Samson, Saul and his armor-bearer, and Ahithophel. In old Greece, when art and esthetics were flourishing, suicide was of very rare occurrence. Later, however, with the advent of the schools of the Cynics, many of the best minds of Greece were poisoned with the desire of self-destruction. Stelpo, Diogenes, Menedimas, Anesicratus, Deinonax, and Peragrinus died by their own hand. With the Stoics and Epicureans the practice of suicide became still more in vogue. Zeno, Demosthenes, Clientes, and their disciples, all voluntarily terminated their lives.

In Rome suicide was popular. Seneca and Cato not only advocated but also practiced it. Brutus, Cassius, Lucian, Marc Antony, Nero, and many others of historic fame, all entered the subterranean precincts of Pluto on their own accord.

The Christians of the early centuries, in order to escape torture and persecution, and also frequently to hasten their entrance to the celestial kingdom, so that they might enjoy the gifts of heaven, had recourse to suicide. Again, some—because of an impulse to become martyrs of their faith—resorted to suicide as a means to attain the desired end.

The causes and reasons of suicide are varied and numerous; yet, multitudinous and complex as they may seem, they can be classified into two divisions: (1) *Pseudo*-suicide; (2) *genuine* suicide.

By *pseudo*-suicide we mean all those suicides committed *rationally*. These are usually executed for one of two reasons: either to gain something more precious than our earthly existence, or to escape misery and torture far worse than death. Of this class were most of the suicides perpetrated by the ancients.

*Genuine* suicide denotes all those cases where reason was hardly consulted. To this class belong fully eighty per cent of the modern suicides. The average case of present-day self-destruction is not because of sacrifice, so that others may profit by the individual's death, nor is it because of persecution or intolerable torture, but because of some *inherent tendency* or a *suicidal predisposition* to which the slightest exciting cause is all-sufficient for its occurrence.

Statistics and statisticians prove in cold figures that suicide is on the increase. The complexity of demands which our civilization puts upon man, and the difficulty of the attainment of those demands, weaken the *vis resistentiae* to such an extent as to

create permanent lesions in our physical organism, conducive to a fluctuation in the domain of volition. To speak with Marselli: "The progressive increase of suicide . . . is not possible to explain otherwise than as an effect of that universal and complex influence to which we gave the name of civilization."

The desire to live pervades all organic life—both animal and vegetable. The instinct of self-preservation governs man even in the very face of death; not alone is this instinct implanted in the individual, but also in the class; not only in the class, but also in the species. Hence *genuine* suicide is but a tacit indication of the inaptitude to live; it is a process of segregation, ridding us of the unfit.

This method of natural elimination acts in obedience to the law of heredity. Heredity is an all-powerful factor in the establishment of a soil, favorable to the growth of many a morbidity. This soil has been considered by all pathologists as the abode of predisposition on the part of the individual. To speak with a contemporaneous writer on this subject, it is a soil prepared by ages, cultivated by generations, and susceptible to the reception of a germinative material, which soon develops in full bloom and blossom, bearing in its pods the seed of destruction and extermination.

The disposition to suicide has been derived from a long distant past; it has lived upon the very blood of our ancestors, has imbibed the very sap of our progenitors, and has gained prominence as an infernal curse to civilization.

The vice of self-destruction is predominantly present in those unfortunates who are the recipients of various neuroses. Every physician can relate a story of a neurasthenic voluntarily terminating his life. Monographs on neuropathic diseases show that about twenty-five per cent of persons afflicted with nervous disorders will ultimately commit suicide. To the same category belongs locomotor ataxia, general paresis of the insane, and a host of other minor nervous maladies. Records of asylums for the insane conclusively point to melancholia as a potent factor in the history of modern self-destruction; not to speak of mania, circular insanity, epileptic insanity, and the insanities of puberty, pregnancy, and lactation.

The various intoxication neuroses, as alcoholism, morphinism, and cocainism, often tend to the rise of an impulsive suicidal mania. The withdrawal of the drug does not in any way abate the predisposing tendency, as Dr. Crothers, of Hartford, has ably shown.

Acute idiopathic delirium, and that due to the divers febrile,

infections, exanthematous diseases, is often a cause of unconscious self-destruction.

Temporary overexertion, both physical and mental, wherein our vital mechanism has been thrown into a state of unbalance, has frequently caused persons to commit suicide.

Aside from the various exciting agencies which may cause suicide, the all-dominant factor, *predisposition,* must be regarded as the *true* source and the *prime* factor. This is easily explained by the fact that some form of psychic aberration is always to be found in the family make-up of those individuals.

So, too, most cases of suicide supervening upon social and business failures can be traced to a neurotic family history. In short, no exciting cause would be strong enough to induce suicide, unless there be a *hereditary predisposition* to the same.

In the early history of jurisprudence hardly any cognizance was taken of the question of suicide. The first nation to enact some laws with reference to suicide were the Romans. They chastised every person who attempted to commit this wrong, by confiscating his property. Shortly England and France followed with the same punishment. Later on the other communities, too, commenced to give it some legal thought. The English common law regarded suicide a felony. Presently it is considered a crime, and the attempt to commit it a misdemeanor.

In the United States the subject is largely governed by statutes, most of them practically following the English law. Thus, the assistance rendered to a person in the commission of suicide has been made a felony in Arkansas, Missouri, Massachusetts, New York, California, Oregon, Minnesota, and other States. So, too, in the United States as in England an accessory before the fact is treated as a principal. In Reg. *vs.* Jessap (10 Criminal Law Magazine, page 862) the court held that "if two persons agree that they will poison each other, each person is a principal and each is guilty." The same reasoning was applied in Blackburn *vs.* State, 23 Ohio St., 146, and in a number of recent New York cases.

The present tendency of the law on this subject is toward greater stringency. Many States, which till now have hardly given it any legal attention, are making rigid enactments. Inasmuch, however, as we have seen that most cases of suicide are due to some physical unsoundness, it is evident that what we most urgently need is not the addition of legal restrictions, but the improvement of our physical organism, for health is the key of human happiness.

## THE CRESCENT FORM OF THE MALARIAL PARASITE.*

BY ROBERT B. PREBLE, M.D., CHICAGO.

In 1896 I read a paper before this society upon malaria as seen in Chicago, and expressed the opinion that the estivo-autumnal malaria was not acquired in Chicago, basing this opinion on blood examination of several hundred cases, among which I found no case of estivo-autumnal fever acquired here. A short time after this I found a case of spring and autumn fever, undoubtedly acquired in the city, and since then I have seen a few others. This seemed a very peculiar fact, and was entirely without reasonable explanation until the demonstration of the relation of the mosquito to the spread of malaria. Considering the frequency with which people are bringing this form of malarial parasite into Chicago, it seems strange that we do not have more of these cases than we do.

The subject assigned me for discussion this evening is that of the malarial crescents. These bodies, the shape of which is well described by the name given them, are readily recognized by any one who has ever seen a picture of them. They are found only in cases of malaria and in only certain forms of malaria. They are never seen in cases of pure infection with the tertian or quartan parasite, and occur only with that parasite which causes the irregular estivo-autumnal fever.

The crescents are fusiform bodies, usually bent in one plane, so that when received in certain directions they present the shape well described by the term crescent. If the preparation of blood is rather thick, the currents of blood under the cover-glass often roll these bodies along so that they may be seen from various points and then alternately appear as crescents and as spindles. They are very highly refractile, sharply outlined, usually with a single, but sometimes with a double, outline. One can frequently find a fine line curving across from one pole of the crescent to the other. This is the cell membrane of the red blood-corpuscle, in which the crescent has developed, for the crescents are all endoglobular. The crescents always contain pigment, which is usually massed in the center, either without any definite arrangement, or arranged in a single, or rarely in a double, wreath. The pigment shows no motion so long as it is collected in the center, but when it is diffused throughout the fusiform body it shows motion; and when the body undergoes progressive changes into an ovoid body, and later into the flagellate body, the pigment takes on most active motion.

*Read before the Chicago Medical Society.

The crescents do not show any motion except an undulation of the outlines quite similar to the undulating movement of the borders of red blood-corpuscles. They show no ameboid movement, but certain of them are capable of slowly changing their form, becoming fusiform, ovoid, or spherical. As already mentioned, the pigment becomes diffused and motile, or arranges itself in a loose wreath, or peripherally. Certain of these ovoid bodies become converted into the flagellate form, while others retain their ovoid shape.

So far as the structure of the crescents is concerned, it is now generally held that there is a central vesicular nucleus surrounded by pigment, and that there is no cell membrane. It has been known for a long time that the crescents occur only with the estivo-autumnal parasite, of which they represent a constant life phase. Only certain of these parasites take on the crescent shape, and they show their peculiarities even when they are not more than a quarter the diameter of the red blood-corpuscle. Even then they present their peculiar shape, contain a large amount of pigment, either irregular, scattered, or collected peripherally. They show no motion, and lie to one side of the center of the red blood-corpuscle with their convex surface against the membrane of the corpuscle. As they increase in size, their peculiarities become more marked. The developmental forms of the parasite are rarely seen in the circulating blood, and only in the severe infections.

The biological significance of these bodies has been the subject of much discussion, and many theories have been advanced, but it is only very recently that they have been proven to be the first stage of a life-cycle passed outside of the human body in the mid-intestine of certain forms of mosquitoes. Laveran regarded them as cystic bodies; Councilman, as spores; Antolisei held that they were completely grown from, and were tending toward, death; Bagnami thought them sterile forms; Maunaberg believes them to be syzygia resulting from a sort of copulation of several individuals.

It is now generally agreed that the crescents and flagellate bodies are sexual forms of the malarial parasite, and the fusion of the flagella, the male element, with the adult crescent gives rise to a new organism which passes its life in the mid-intestines of certain mosquitoes. It is neither wise nor necessary to describe the details of the development of the fecundated crescents as they have been followed in the walls of the mid-intestine. It is sufficient for our purpose to state that all of the steps, except the actual fecundation, have been followed, and that in general about seven days elapse from the time of the sucking

of the infected blood until the mosquito can transmit the malaria to some other individual. The duration of the cycle in the mosquito is very greatly influenced by the temperature, shortening as the temperature is raised.

These changes do not occur in all forms of mosquitoes. They have been followed through three species of the genus Anopheles, the claviger, bifurcatus, and pictus. The commoner form of mosquito does not belong to this genus, but to the genus Culex. The few mosquitoes which I have examined here have all been of the genus Culex, but there are doubtless numerous Anopheles here also, as is proven by the not infrequent cases of Chicago malaria.

The diagnostic significance of the crescents is very great. They occur only in cases of malaria, and their diagnostic value is the greater because they occur in those cases of malaria which present themselves in irregular forms, differing very widely from the typical regular chill and intermittent temperature. These cases may be afebrile and without chills; there may be a temperature constant, or regularly or irregularly intermittent. The case may appear as a severe gastroenteritis, or a dysentery, or as a bronchitis. Severe nervous forms, particularly coma and convulsions, neuralgia, the multiple sclerosis as reported by Spiller of Philadelphia, paralysis.

The crescents are not always easily found in the peripheral blood; although usually readily seen, it may be necessary to examine the blood repeatedly before they are found. In certain cases one is justified in taking the blood from the inner organs, the liver or spleen, by means of the exploring syringe. It is better to try the liver first, as puncture of the liver is not so dangerous as the splenic puncture.

In a few cases I have been able to find the parasite in the circulating blood after a small dose of quinine, although the blood had been examined repeatedly before the use of quinine with negative results.

There is still another important significance in the presence of crescents in the blood. So long as they are present the patient is a source of danger to others. While it is not necessary to isolate such patients, they should be very carefully protected from mosquitoes during the night, during which time the Anopheles bite.

# CORRESPONDENCE.

## A CONTRIBUTION TO THE STUDY OF IMMUNITY.

*To the Editor of the* MEDICAL AGE:

I wish to contribute a straw to the general fund of information on this subject, a fact bearing on the absorption of auto-antitoxins that may have an important bearing on future therapeutics.

S. D——, a young man of twenty, was badly poisoned by poison-ivy. The eruption covered the entire surface of the body, and the irritation and itching were something fearful to endure. An old woman told him to eat ten or fifteen leaves of the poison-ivy, saying that it would cure him, but that the next day he would be covered all over with water-blisters—otherwise the ivy would not hurt him. He followed her instructions immediately, chewing and swallowing from ten to twelve of the leaves of the plant. The next day he was covered from head to foot with water-blisters, but the eruption and itching had disappeared. This was twenty-five years ago, and ever since he has been immune to the poison-ivy, handling it with impunity. He has given the prescription to a number of others, in all of whom the result was the same, although some ate only three or four leaves, and had only half a dozen blisters.

My theory is that the serum of the blisters containing the infection becomes an antitoxin against the virus, when reabsorbed. And this affords a confirmation of the theory of *similia similibus curantur—i.e.,* the serum of patients infected with certain poisons will cure the disease in other patients similarly affected, and immunize those not affected against that particular poison. The serum of typhoid, typhus, pneumonia, smallpox, bubonic plague, etc., absorbed into the blood of those affected with the same diseases, or even into the blood of those from whom it was derived, is an antitoxin against the disease itself.

This theory would confirm the known benefit derived from blistering the chest in pneumonia with cantharides. The serum, when reabsorbed, is an autoantitoxin against the pneumococcus.

This subject is worthy of further investigation. I merely jot down these ideas to provoke discussion and elicit the experience of others.

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## EDITORIAL ARTICLES.

### ALCOHOL AND ABILITY TO WORK.

According to a recent report the German Emperor has taken a decided stand in regard to the advisability of forbidding the use of alcohol to workingmen during the hours of work. Additional importance must be attributed to this action in consideration of the fact that this has occurred in a country in which, from time immemorial, the inhabitants "drank still another one." The action is undoubtedly one of great importance. The effect of alcohol in inducing people to commit crime under certain circumstances is undisputed, and its influence upon insane and easily affected people is too well known to need any comment. That the use of alcohol unfavorably affects the working power of the brain is, however, not quite so well established in common knowledge.

Kraepelin, the foremost authority on this subject, remarks that the tendency to become fatigued is much increased with a drinker. The drinker can concentrate his attention for a continued period of time only with difficulty, and according to this same authority he cannot understand more complicated things so easily. His horizon becomes narrower, his intellectual development comes to a standstill, and after a while it retrogrades. We have been told that one of the most prolific authors who indulged quite freely in alcohol was once asked by a friend what idea he intended to convey to his readers in a certain part of one of his works. He answered: "When I wrote this part there were two who knew what I intended to say—God and myself; now only He knows what I had in my mind." Aschaffenburg reports the results of experiments with four typesetters, and he comes to the conclusion that alcohol in moderate doses (36 to 40 grammes) reduces the ability to work. Only once in eight experiments he missed the evil effect. The loss by the effects of alcohol amounted to 10.6 to 18.9 per cent, while fatigue alone reduced the expected amount of work only 6.5 per cent.

The necessity of giving our renewed attention to the alcohol question cannot be denied. The practical outcome of the agitation which recently has received imperial impetus in Germany cannot fail to be of importance for all countries.

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## EDITORIAL NOTES.

### A New Theory of the Evolution of Mind.

An English author, Mr. J. W. Thomas, has advanced the theory that mental evolution is a parallel process to the evolution of the body as described by Darwin. A consideration of the intuitive faculties of all created things from inorganic matter up to the most highly organized creature, man, will supply the hitherto missing links in the theory of mind. The influence of environment is to keep alive by stimulus and to develop capacities which unfold from within. Evolution is the unfolding from within rather than the infolding from without. So in this sense Haeckel said "sense function is possible without sense organs and without nerves." There would seem to be less novelty about Mr. Thomas's theory than might at first appear apparent to the reader.

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### A New Intestinal Antiseptic.

According to report it is said that Professor Novy of the University of Michigan has produced an efficient antiseptic for intestinal diseases. So far the preparation has been tried with success on small animals, and recently five medical students have been undergoing experiments. The substance is not yet obtainable for therapeutic purposes, nor does its originator claim that it has yet received sufficient proving in a clinical sense to demonstrate its actual worth. He is, however, hopeful that something of real value has been discovered.

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### Immortal Matter.

Professor Loeb has been telling the world how sea-urchins' eggs can be arrested from decay by adding to their environment some cyanide of potash. This has been ridiculously stretched out of all proportion into a discovery of the immortality of matter and the permanence of life. Foolishness can go no further than this.

# ITEMS AND NOTES.

The Woman's Hospital at Manila is ready for patients.

The population of Germany has been trebled within the last century.

A Conference of Sanitarians will be held at Minnesota in January, 1902.

An International Sanitary Congress will be held in Havana February 15, 1902.

A Virchow institute will be established by the Russian government in Moscow.

Thirty-eight out of every 100 deaths in the Hamburg Marine Hospital are caused by tuberculosis.

Of the 656 students enrolled at the Johns Hopkins University, 257 are candidates for the degree of M.D.

An open-air colony for the treatment of incipient tuberculosis has been established near Plymouth, Mass.

The Medical Chirurgical Faculty of Maryland now has 686 active members, and seventeen honorary members.

The statistics show that Chicago outclasses all other cities for the number of deaths occurring from railroad accidents.

It is reported that never before in the history of the United States has there been such a scarcity of veterinary surgeons.

Dr. C. F. Willchos, of Clinton, Ohio, recently celebrated his ninety-eighth birthday. The Doctor is still in active practice.

Rear-Admiral Van Reypen, surgeon-general of the navy, was reappointed at the expiration of his present term, December 18.

The Medical Society of the State of New York will hold its annual meeting at Albany, N. Y., January 28, 1902, lasting for three days.

The New York State Lunacy Commission will introduce a bill at the coming session of Congress with a view of excluding insane immigrants.

The Illinois State Board of Health recently arraigned seven women for practicing without licenses and advertising themselves as physicians.

COMPULSORY vaccination is being enforced in the Philippines owing to the prevalence of smallpox in several of the islands.

A BACTERIOLOGIC building is to be erected in connection with the State Agricultural College at Lansing at a cost of over $50,000.

A SANITARIUM has recently been established near Denver where the open-air treatment for tuberculosis is carried out fully.

THE government officials in Jamaica are trying to rid that country of the witch doctors who practice for financial gain among the superstitious natives.

SCHOLARSHIPS have been awarded by the Institute of Medical Research, founded by J. D. Rockefeller, to four students of the University of Pennsylvania.

THE Imperial Leopold Caroline Academy of Sciences, which has its headquarters at Halle, celebrated its one hundred and fiftieth anniversary, January 1, 1902.

THE University of Aix-Marseilles has followed the example of the University of Bordeaux in deciding on the establishment of a diploma for colonial medicine.

THE death-rate of Russia, according to journals of that country, is higher than in any other country, and the average of life is shorter; it is said to be but twenty-nine years.

THE Health League of New York City has been incorporated with a capital stock of $150,000. It aims to establish hospitals for the treatment of the sick by means of nature cure.

THE Provincial Board of Health, Montreal, has petitioned the Federal Government to prohibit the granting of insurance policies in favor of parents for the lives of children under ten years.

THE president of the San Francisco Board of Health recommends the destruction of the Chinese quarter, claiming that Chinatown cannot be rendered sanitary except by total obliteration.

SCIENTIFIC investigations will be begun soon at the University of Chicago under the auspices of the Rockefeller Institute and supervision of Dr. Ludwig Hektoen of Rush Medical College.

A CORPS of sanitary inspectors have been established in Manila composed of one chief health inspector, two medical inspectors, and twelve chief sanitary inspectors, and thirty-three assistant sanitary inspectors.

It is stated that the parents of several of the children in St. Louis who died of tetanus following injections of contaminated diphtheria antitoxin have threatened to bring suit against the city for damages.

The vital statistics of New Jersey for the year ending October 21 show that the mortality from carcinoma is extremely great, there having been over a thousand deaths from the disease during the year.

The appropriation of $30,000 made at the last session of Congress for the erection of a building for a laboratory for surgeons of the Marine Hospital is now available. The building will be erected on the Potomac flats.

Maj. Walter Reed of the army, who some months ago began investigations with the view of identifying the yellow fever germ, has reported to Surgeon-General Sternberg that efforts have been in vain.

According to C. A. Snodgrass, the bacteriologist employed by St. Louis to investigate the city's antitoxin, no tetanus bacilli were found by him in the samples of August 24. These samples were taken from the same serum which was used fatally in the cases recently reported.

The Berlin konigliche Akademie der Wissenschaften and the Danish Academy at Copenhagen have, it is stated, decided to prepare a collection of all the medical works of antiquity under the title of "Corpus Veterum Medicorum." The first step in this important undertaking will consist of a thorough examination of all libraries, Oriental as well as European, which are likely to contain MSS. dealing with medical subjects.

The habit of cocaine eating seems to have spread extensively, says the *Lancet,* among the natives of Bengal. It is sold in small paper packets, containing half a grain or one grain, which are obtained for half an anna or one anna respectively. It is impossible to say how much is consumed by any one individual, but several grains a day have been confessed to. The sense of feeling well is followed by depression, but the habit appears to be peculiarly seductive, and once commenced is with the greatest difficulty abandoned. A blackening of the teeth is said to be caused by cocaine eating, and the blackening is thought to be characteristic.

An "Odontiatric" Congress was recently held at Milan under the presidency of Cavaliere Dr. Alberto Coulliaux. Among the

subjects discussed were the following: "Odontiatry in Forensic Medicine," by the President; "Bleeding from the Gums caused by Hemophilia," by Dr. Petracchi; the "Treatment of Caries," by Dr. Caccia; and "Dental Mechanics," by Messrs. Mela and Puppo. Resolutions were passed asking for the establishment of chairs of odontiatry in all Italian universities having a faculty of medicine, and for the prohibition of dental practice except by holders of a certificate of knowledge obtained after an adequate course of education and examination.

Professor Finsen, of Copenhagen, has received, says the *Philadelphia Medical Journal,* much praise for cures effected by sunlight; but an English scientist points out that this method of curing diseases was known and practiced in England centuries ago. John Gaddesden, who wrote the famous medical treatise, "Rosa Medicinæ," and who died in 1361, treated the son of King Edward I. for smallpox by wrapping him in scarlet cloth and placing him in a bed and room with scarlet hangings, and the patient recovered, never showing any trace of smallpox. There is also evidence that other physicians believed in the virtues of phototherapy and adopted it to cure certain forms of skin disease.

A recent number of the *Philadelphia Medical Journal* contains the following notes: 154 out of every 10,000 convicts are constantly in hospitals. On an average, 1,700,000 of the world's population are constantly afloat. Only 900 people in a million die of old age. Malaria has been found in Honduras at an elevation of 4000 feet, far above the mosquito level, where there is good water, natural drainage, and salubrious climate. The flea, it is said, is responsible for this. The island of Java, which is 673 miles long and 125 miles wide, only three degrees off the equator, supplies practically all the cinchona bark from which quinine is made. There are about 25,000 acres of this island used in growing cinchona.

The first sealed thermometer was made some time prior to 1654 by Ferdinand the Second, Grand Duke of Tuscany; he filled the bulb and part of the tube with alcohol, and then sealed the tube by melting the glass tip. There appears to be considerable doubt as to who first employed mercury as the thermometric liquid; the Academia del Cimento used such an instrument in 1657, and they were known in Paris in 1659. Fahrenheit, however, appears to have been the first to construct, in 1714, mercury thermometers having trustworthy scales. The use of the boiling point of water was suggested by Carlo Renaldini in 1694.—*Engineer.*

In various German schools, says *American Medicine,* courses of treatment for the cure of stuttering have been instituted, and in Berlin six specialists engaged by the Municipal Board of Education devote twelve hours weekly to the work. It is estimated that 1½ per cent of the children attending German schools stutter. Two systems of treatment are being tried: one gives a vocal drill in sounds that the children find most difficult to utter. The other method is confined to institutes over whose children municipal authorities can exercise more control, and consists in dealing with stuttering as if it were a nervous disorder which can be remedied by change of diet, especially by diminishing the amount of meat, by open-air exercise, etc. By this latter method, after two weeks' treatment, fifty out of ninety-three were almost entirely cured.

In Nuthall's experiments it was demonstrated, says *American Medicine,* that the mosquito is attracted by some colors and repelled by others. Large basins as breeding places for Anopheles were placed on the floor of a large gauze tent, one end of which was formed by large windows into which the sunlight poured on bright days. It was first observed that when a person entered the tent clad in dark-gray clothes the mosquitoes settled on the dark cloth, but that they never did this when the person entering was clad in white flannels. A number of boxes lined with cloth of various colors were placed in rows on the floor, and it was noticed that the mosquitoes would enter the box lined with dark blue in great numbers, and in less numbers would enter boxes lined with other colors, in the following order: dark red, brown, scarlet, black, slate gray, olive green, violet, leaf green, blue, pearl gray, pale green, light blue, ochre, white, and orange. No mosquitoes were found in the box lined with yellow.

Uhlenhuth devised, says an exchange, a method for differentiation of mammalian blood, with special reference to medico-legal inquiries concerning human blood. This consisted in making repeated injections of the defibrinated blood of such an animal as man into the peritoneal cavity of a rabbit, from which a serum is obtained which, when added to a clear solution of human blood, forms a precipitate, but fails to do so with the blood of other species. Uhlenhuth now claims by a modification of this method to be able to distinguish accurately the different kinds of meat and so to detect the fraudulent substitution of cat, dog, etc., for beef, mutton, and other good meat even in sausage or mincemeat, provided it has not been cooked. A small portion of the meat is scraped and left to soak in water or normal salt solution, the

process of solution being hastened by adding a few drops of chloroform; the extract is then cleared by filtering. A precipitate will form in this clear fluid on the addition of a few minims of a serum prepared as described with the blood of the same species of animal.

In response to a request of Surgeon-General Wyman, Solomon Berliner, United States consul, reports concerning the fitness of the Canary Islands as a resort for the tuberculous, according to *American Medicine.* He considers that on account of their geographic position the Canaries form an almost ideal home for invalids, as for dryness and equability of temperature they offer advantages hardly possible to surpass, and the principal European lines of steamers making them ports of call renders the Canaries accessible to all parts of the world. Teneriffe and Grand Canary are the only islands which need be considered, as they alone have hotel accommodations, and their principal towns have mean winter temperatures as follows: Santa Cruz, Teneriffe, October to May, 66.2°; Orotava, Teneriffe, 65°; Las Palmas, Grand Canary, 65.3°. Guimar, toward the south of Teneriffe, is 985 feet above sea level, and is considered to enjoy the best climate in the islands. Special attention should be drawn to this spot, as it is the place that has been chosen by an English physician, Dr. Stanford Harris, for the construction of a hospital devoted to the treatment of tuberculosis on the pure air system. Dr. Harris resided in the Canary Islands for sixteen years, and as a result of his experience selected Guimar as being in every respect the most suitable for the institution referred to. The hospital stands 1200 feet above the sea level, and commands an extensive view of mountains and sea.

An International Congress of Historical Science, according to the *British Medical Journal,* is to be held in Rome about the middle of April, 1902. A section has been allotted to the history of medicine and ancillary sciences. The president of the section is Professor Piero Giacosa, who has issued a circular inviting those interested in such studies to attend "in a numerous and compact body, to justify the honor paid to this branch of study, which has been placed on a level with others, and to fraternize with each other and with their colleagues of the other sections." The Section of the History of the Mathematical, Physical, and Natural Sciences, the president of which is Professor V. Cerutti, will hold some meetings in conjunction with the Medico-Historical Section for the discussion of subjects belonging to both fields of research. The German Society for the Study of the History of Medicine and the Natural Sciences, which was founded at the time of the annual meeting of the Association of Scientists and Medical Practitioners,

held at Hamburg last September, has already a membership of sixty, including Germans, Austrians, Hungarians, and Swiss. The society has undertaken the issue of a periodical review of all publications on the history of the pure sciences and medicine. The first number of this review will appear in January, 1902. The president of the society is Dr. Karl Sudhoff, of Dusseldorff, the well known authority on paracelsus; the vice-president is Dr. Emil Wohlwill, of Hamburg. Among the members are Professor Kahlbaum, of Basel, and Dr. H. A. Peyers, of Amsterdam, the editor of *Janus.*

M. Dussaud laid before the Paris Academy of Medicine at the meeting held on November 19, 1901, a method for enabling blind people to write in the same manner as they read, a result which has been vainly sought for during seventy years. The Braille alphabet, as everybody knows, is made out of eighty-two signs obtained by the varying combinations of six dots. These are stamped in relief on the paper, and the blind person reads them by passing his fingers over the surface. To produce these signs so that they can be read in their turn the blind person drives a stylus into the paper and so makes a depression—that is to say, he writes his signs on the back of the sheet so that they come out in relief on the front. Therefore, he has to write these signs the reverse way, as engravers do. In this way it will be seen that writing for the blind under present conditions offers many difficulties, for he has to learn his alphabet twice over—once to read it, and in a reverse manner to write it. He only has the combination of six dots to work with, and therefore he has to write an "e," for example, so as to read an "i," and so on. This is a maddening process. M. Dussaud employs a metal regulator divided into compartments carefully aligned. At the bottom of each compartment there are six holes, and this regulator is placed on the paper. Underneath the paper another regulator is placed corresponding to the top one, but having six points which stick up into the six holes of the one on the top. The blind person drives the stylus into the necessary holes to form a letter, but in place of making a hole he forces together the two regulators, and so the letter is produced in relief by the points of the regulator underneath driving the paper up through the holes of the one on the top. He therefore can write directly characters which can be read. The same method is applicable to writing figures or music, and it has brought about a real revolution in the lot of the unfortunate beings who are deprived of the sense of sight.—*Lancet.*

# NEW PUBLICATIONS.

## THE STANDARD MEDICAL MANUAL.

This is a brief and succinct account of the facts of etiology, pathology, and symptomatology of various diseases, as they occurred to one who as editor of the *Medical Standard* has been constantly reviewing the enormous wants of collateral medical literature. It is an excellent work for the purpose of rapid and ready reference.

The Standard Medical Manual. A Handbook of Practical Medicine. By Alfred S. Burdick, M.D. Pages 921. Illustrated. Price, Cloth, $4.00. Chicago: G. P. Engelhard & Co.

## SURGERY BY AMERICAN AUTHORS.

The third edition of this splendid work called for at such a brief interval is the clearest indication that it has met with approbation by the student and practicing surgeon. The modern results of surgical research are presented to the reader in a series of most valuable monographs by authors who have attained recognized distinction in their separate specialties. The work is admirably published, and is a handsome addition to the surgeon's library.

Surgery by American Authors. Edited by Roswell Park, A.M., M.D. Third Edition, Enlarged and Thoroughly Revised. New York and Philadelphia: Lea Brothers & Co.

## GYNECOLOGICAL PATHOLOGY.

The microscopical examination of the tissue of the excised and curetted uterus has now become an ordinary expedient in gynecological practice. The necessity of this mode of diagnosis is becoming daily more and more recognized. The second edition of Carl Abel's work has been considerably enlarged, and yet it does not contain anything which is not of practical gynecological value. It will be found an invaluable work for the practical man.

Gynecological Pathology. A Manual of Microscopical Technique and Diagnosis in Gynecological Practice for Students and Physicians. By Dr. Carl Abel, Berlin. Translated and Edited by Samuel Wyllis Baudler, M.D., New York. One hundred engravings. New York: William Wood & Co.

## LIBERTINISM AND MARRIAGE.

In this work is discussed very frankly the relation of the libertine to the married state. The appeal is almost *pro femina,* as the victims of this condition of affairs here considered are almost always women. It is to be hoped that the plain speaking of the author may be conducive to the implantation in the minds of young men a sense of their grave responsibility, and prevent them approaching the hymeneal altar unless pure or in the plenitude of regained health.

Libertinism and Marriage. By Dr. Louis Jullien (Paris), Surgeon of Saint-Lazare Prison; Laureate of the Institute, of the Academy of Medicine, and of the Faculty of Medicine of Paris. Translated by R. B. Douglas. Size of page 5½ by 7½ inches. Pages v-169. Extra cloth, $1.00 net, delivered. Philadelphia: F. A. Davis Co.

# THE PROGRESS OF MEDICAL SCIENCE.

## SURGERY.

### Angiomata.

Angiomata, according to William Osler (*Bulletin of the Johns Hopkins Hospital,* November, 1901), are very peculiar and remarkable structures. Apart from the big nevi and angiomata with surgical relations there are:

1. The pin-point, punctiform, capillary angioma, of which few skins lack examples. They may be numerous, but they are rarely disfiguring. They appear and disappear. For ten years Osler had one the size of a pin's head on a finger.

2. The solid, nodular nevus, ranging from one to four or five millimeters in diameter, forming a definite little tumor, either sessile or pedunculated, and very common on the back.

3. The spider angioma, formed by (*a*) three or four dilated veins, which converge to and join a central vessel; or (*b*) which unites at a central bright-red nodule projecting a little beyond the skin. They are very common, and doctors are often consulted about their presence on the face.

As examples may be found on the skin of nearly everybody, these three varieties may be regarded as almost normal structures.

When the punctiform or spider angiomata increase greatly in number they are very disfiguring. Angiomata have a curious relationship with affections of the liver. In cirrhosis, in cancer, in chronic jaundice from gall-stones, spider angiomata may appear on the face and other parts. They may be of the ordinary stellate variety, like the stars of Verheyen on the surface of the kidney, or the entire area of the star may become diffusely vascularized, so that there is a circular or ovoid territory of skin looking pink or purple, owing to the small dilated venules. A dozen or more of these may appear on the trunk, or even large ones may appear. And lastly, in a few cases of disease of the liver Osler has seen large, mat-like telangiectases or angiomata involving an inch or two of skin, and looking like a very light birth-mark, but which had appeared during the illness. The skin was not uniformly occupied with the blood-vessels, but they were abundant enough on the deeper layers apparently to give a deep change in color and to form very striking objects. The dilated venules on the nose, and the chaplet of dilated veins along the attachment of the diaphragm, are not infrequently accompaniments of the spider

angiomata in cases of disease of the liver. The writer says that recently he has seen the spider angiomata appear in the face in a case of catarrhal jaundice.

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### Past, Present, and Future of Cancer.

S. McGuire (*Gaillard's Medical Journal,* November, 1901) published a paper in which he reviews the history of cancer and calls attention to the recent views of the etiology of the disease, and also states the present accepted principles of its treatment. The earliest medical writings, says the author, contained descriptions of tumors, and their origin was attributed to the influence of malign or evil spirits. Broussais, early in the nineteenth century, claimed that all tumors, including cancer, were forms of chronic inflammation consequent on organic irritation. Muller established the fact that tumors were formed of cells, but believed the cells were derived from the blood. Virchow accepted cellular structure of tumors, but denied the blastemal origin of the cells. Cohnheim controverted the existence of metaplasia and established the law of the legitimate succession of cells. He classified tumors by referring each to the embryonic layer from which its cells had origin, and advanced a novel and ingenious theory to explain their development. He claimed that during the progress of cell differentiation in the embryo more cells were produced at a certain point than were necessary for the formation of that particular region. He believed that these left-over cells not utilized by the growth of the organisms were arrested in their further development and remained in a dormant condition. He claimed that if the energy of these detached and slumbering islets of embryonal cells were reawakened later by internal or external stimulation, they would undergo rapid proliferation.

Based on Cohnheim's theory, which is almost universally accepted, the term tumor is now used in a much more restricted sense than formerly. Bacteriologists have patiently and persistently endeavored to prove that many of the growths supposed to be tumors or neoplasms due to the proliferation of embryonal cells are really inflammatory swellings due to the action of hitherto unknown but recently discovered microörganisms. Senn adheres to the cellular theory of the origin of cancer, and claims that from an etiologic standpoint very little has been added to our knowledge of the disease since the epoch-making labors of Virchow, Cohnheim, and Waldeyer. Roswell Park claims that the infectiousness of cancer has been proved, but admits that the exact nature

of the organisms has not been demonstrated. He says that it is not now believed that cancer is due to the bacterium, but to a parasite perhaps similar to the plasmodium of malaria.

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### Carcinoma of Male Breast.

Warfield (*Johns Hopkins Hospital Bulletin,* October, 1901) adds to the statistics of Schuchardt, who tabulated in 1900 a collection of 472 cases of cancer of the male breast. Warfield finds reports of thirty-two cases since that date, but can add five personal observations. Between 1891 and 1899 inclusive, two out of 287 cases of mammary cancer admitted into St. Thomas's Hospital, London, occurred in men. As to age, thirteen in Warfield's thirty-seven (excluding one where no age was given) occurred in the seventh decade, making the largest proportion later in life than it was in earlier statistics. In one case the tumor of the breast had been noticed for thirty-five years; the shortest time between its discovery and medical consultation was two weeks. In eighteen cases the right, and in eighteen the left, breast was the seat of the disease; in one the side was not noted. In twenty five there was no report about injury, in four no clinical history at all, but in eight the patient could definitely attribute the disease to trauma. It is interesting and important to remember that in two cases the nipple had been irritated by the friction of braces; both patients were aged. In one case a heavy watch seems to have irritated the nipple in a similar manner. Pain was only complained of in nine cases; ulceration was noted in thirteen. The nipple is often involved, probably because of the limited area of the glandular tissue; in eighteen cases this condition was noted, in twelve the nipple was retracted, in one partially, and in one partially destroyed. Discharge from the nipple was noted in one of the thirty-seven cases only. In twenty out of twenty-nine where the state of the axilla was noted, the glands were enlarged; thirty-four out of the thirty-seven cases underwent operation, all recovering save one, where death from pulmonary complications followed, the patient being aged. Recurrence seems to have taken place in most cases, but reports are irregular. In Warfield's five cases, one was lost sight of; one died one and a half years and one died one year and five months after the operation; one was alive eight months and one three and a half months after the removal of the breast. In the first case of death from recurrence, intensely severe girdle pains and paraplegia set in. There were no metastases in the internal organs, but deposits were free in the sternum, ribs, and vertebræ. One growth in the vertebral canal pressed on the seventh dorsal centrum.

### Spondylitis Deformans as a Form of Arthritis Deformans.

According to A. J. Kudriastoff (*Vratch; Med. Rec.*, Dec. 14, 1901) spondylitis deformans is simply a form of arthritis deformans. His own observations have convinced him of the fact, and he believes that though many authors have of late described the disease under different names, still they all must have meant the same affection. Senator says that the difference in the phenomena of the disease depends only on the difference of the affected parts, on the difference in the intensity of the disease with which the articulations of the extremities are affected, and on the presence or absence of the derangement of the nervous system. The author thinks that the limited or entire loss of motion of the vertebral column, more frequently its kyphotic curvature, occasionally the creaking sound felt in the vertebral articulations, the irregularity of the nervous phenomena of the spinal cord (with comparatively slight lesion of the latter), the marked atrophy of the corresponding muscles, the slow but gradually aggravated course of the disease, the limited or total loss of motion of the thorax, frequently the synchronous affection of other articulations, the occasional involvement of the heart; the action, cold, or injury as an exciting cause, the obstinate resistance to all treatment; and finally, the deformed vertebræ felt on palpation—all these tend to prove that spondylitis deformans is simply a form of a well-known disease—arthritis deformans.

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### Osteitis Deformans.

Osteitis deformans, according to A. W. Elting (*Bulletin of the Johns Hopkins Hospital,* November, 1901), is a chronic disease of the bones which develops in middle life or later, and is of more frequent occurrence than is generally supposed. The onset is insidious, sometimes in a single bone, usually manifesting a tendency to symmetrical involvement of the bones. There is a special tendency to involvement of the tibia and femur as well as the frontal occipital and parietal bones. It attacks both sexes and does not appear to be related to any constitutional disease. The etiology of this disease, says the writer, is not very well understood, and it requires over five to fifteen years to reach its maximum development. The disease is characterized by hypertrophy and deformity of the bones involved either with or without pain. It is characterized microscopically by a rarefying osteitis combined with new bone formation. The duration of the disease is indefinite, and it has comparatively little influence upon the general health, and is therefore no direct cause of death. The treatment must be purely symptomatic.

### Gonococci in the Blood.

Klemperer, of Karenski's clinic, Berlin, has published (*Medical Press,* Dec. 11, 1901) an interesting case of spread of gonococci by the blood tracks in the case of an infant with blennorrhea. Multiple inflammation of joints soon followed the blennorrhea, which, however, quickly receded. Then an abscess developed in the back, and on being opened a large quantity of gonococci was found in the pus, as many as were found in the blennorrheic discharge. Local external transportation from the eye to the back was out of the question; the cocci must, therefore, have got there through the blood track. Frankel had, moreover, always found pneumococci in the blood in pneumonia, even after the crisis. He also advocated the use of large quantities of blood and large quantities of nutrient soil to reduce the bactericide action of the blood serum. Gonorrheal joint affections were comparatively frequent. They were generally monoarticular, and were characterized by a doughy swelling around the joint from participation on the part of the periarticular tissues. Such inflammations were frequently and wrongly considered to be rheumatic.

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### Suprapubic Prostatectomy.

The etiology of prostatic enlargement, according to David Wallace (*Medical Press,* Dec. 18, 1901) in a paper read by him before the Edinburgh Medico-Chirurgical Society recently, is as yet obscure; neither age alone nor the more recently advanced view that it is caused by arteriosclerosis can explain it, and one is rather driven to the idea that it might have analogies with fibroid tumor of the uterus. It is found in three chief varieties: (1) Vascular or erectile; (2) fibrotic, usually quite small; (3) fibro-adenomatous, or actual tumor growth in the gland. The four methods of treatment chiefly in vogue are: (1) Catheter life; (2) cystotomy, perineal or suprapubic; (3) castration or vasectomy; (4) prostatectomy, perineal or suprapubic.

In early cases, before there was atony of the bladder, and where no complications had arisen, he advised the initiation of catheter life, and if difficulty in cathterization increased, or if cystitis developed, castration or vasectomy might be employed. These operations had met with considerable success, and statistics were read showing their low mortality. Criticizing these, Mr. Wallace said that every fatal case where death could be ascribed to anything else than operation had been excluded, and hence, practically, the mortality was higher than appeared from them.

The operation is quite as severe as cystotomy, and it has this disadvantage: if the diagnosis is incorrect—*e. g.*, if there should be unsuspected malignant disease of the prostate—it is quite useless. "Prostatism," as the French call it, is a collection of symptoms which might be due to hypertrophy of the organ, or to septic mischief apart from this. The differential diagnosis is often impossible. Rectal examination alone is not sufficient to enable one to decide which is present. Measurement of the length of the urethra is a help, but not an absolutely trustworthy one, while cystoscopy is not always practicable. The author enters a plea for cystotomy in such cases; if the condition proves to be due to sepsis without enlarged prostate it is the operation of election, while castration, naturally, is useless. The question then comes to be whether suprapubic or perineal cystotomy should be done. He strongly urged the former. Drainage can be as well carried out in this method if Cathcart's modification of Sprengel's pump is used, as in the low operation. Then it has the great advantage that the prostate can be examined and dealt with—either divided or removed—as circumstances might require. The objections alleged are the greater dangers of suprapubic cystotomy, prevesical cellulitis, and the like, but with ordinary care these should not occur. He does not think the risks of cystotomy are increased when prostatectomy is done. In forty cases of cystotomy he had had four deaths (12.5 per cent), only one of which was a case in which prostatectomy had been carried out. The fatal cases were as follows: (1) Palliative cystotomy for vesical cancer; (2) two palliative cystotomies for tuberculous cystitis; (3) septic cystitis, with stricture, for which repeated operations had been performed, and an abscess had formed outside the bladder; (4) prostatectomy. He thinks that prostatectomy is specially indicated in fibroadenomatous enlargement where masses of glandular tissue can be enucleated. Sepsis is no contraindication; in ten out of his eleven cases there had been cystitis. The operation should be done at one time, not in two stages, because the bladder contracts after it is drained, and there is much greater difficulty in removing the prostate at a second operation.

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### Spontaneous Rupture of the Bladder.

Havas (*British Medical Journal,* Dec. 21, 1901) reports a case illustrating the fact that a normal bladder may rupture under the stress of acute complete retention of urine. A previously healthy laborer, aged fifty-five, had two rigors on February 13, since which date he passed neither urine, nor feces, nor flatus.

Micturition had always been normal, and gonorrhea was denied. On the 15th and 16th the patient himself applied hot fomentations to the abdomen; on the 16th also three surgeons attempted unsuccessfully to pass the catheter. On February 17 he was admitted to hospital with symptoms of peritonitis—vomiting, hiccough, meteorism, and collapse. There was a prominence in the region of the bladder, but tympanitic resonance over it, except for three finger-breadths above the symphysis. A catheter was passed without difficulty, but no urine was obtained except what collected in the lumen. There was constant strangury and a sensation of distention. Postmortem, urine was found in the peritoneal cavity. The renal pelves and the ureters were normal. On the posterior vesical wall there was a vertical laceration, over an inch in length, extending through the peritoneal coat. On the anterior wall of the prostate there was a gutter-like tear, covered with coagulum, which was directly continuous with a perforation of the membranous urethra, and was evidently a false passage made in the attempts at catheterism. The mucous membrane of the urethra and bladder was normal. The prostate was hypertrophied, and was doubtless the cause of the retention. This may arise in any stage of prostatic enlargement from edema of the prostatic plexus. The false passage was not connected with the rupture, since the symptoms of peritonitis preceded the catheterism.

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## MEDICINE.

### Abdominal Pain in Typhoid Fever.

Georges Martin has made a series of observations on the different forms of abdominal pain and their significance in typhoid fever (*Thèse de Paris; British Medical Journal,* Dec. 9, 1901).

A certain amount of abdominal pain seems to be the normal condition of affairs in typhoid, but in many instances such pain takes on special characters and may demonstrate the presence of some complication—pneumonia, pleural or otherwise. At times cutaneous hyperesthesia is so marked that the patient cannot bear to be touched, and his cries almost suggest peritonitis. Abdominal pain in typhoid may mean retention of urine. In some instances hemorrhagic effusion into the abdominal muscles has been the explanation. If menstruation persists during the course of typhoid, which is in itself exceptional, there may be intense pain. Such cases must be regarded with caution, as hemorrhage and pain may all the time be due to imminent abortion. It may

happen again that during the course of typhoid fever the patient suddenly complains of violent abdominal pain, the parietes becoming distended and tense. The patient utters sharp cries, and everything suggests perforation. Careful examination in such cases has demonstrated the presence of hysteria. Epigastric pain accompanied by vomiting has been described in some cases as the dominating symptom of the disease. Such pain may be provoked by the ingestion of some food material. When diarrhea is intense in the course of typhoid, it may give rise to a sharp pain of a colicky character, coming on especially when the bowels are about to move. The pain is generalized, and careful consideration of this fact will sometimes prevent serious mistakes in diagnosis. Inversely, constipation with accumulation of fecal material may be the cause of severe abdominal pain. The too early administration of solid food may also cause pain. Perforation and peritonitis are, of course, the chief causes of abdominal pain, and it is from such that the other conditions require to be diagnosed. Pain in the region of the right hypochondrium suggests the possibility of hepatic complications, such as congestion of the liver, hepatic abscess, or empyema of the gall-bladder. Similarly, on the left side it may be due to infarction of the spleen. On the other hand, Martin describes cases of severe abdominal pain without there being any indication of its cause, and at the post-mortem examination nothing being found to account for it. Many cases are quoted in which the pain was so severe that the abdomen was opened with a view to discovering the cause.

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### Cinchonism, Tinnitus, and Articulation.

Carl Seiler (*New York Medical Record,* Oct. 26, 1901) records some observations on this subject. His conclusions are the result of a large number of investigations extending over more than ten years. Much difficulty was naturally experienced in getting definite data as regards the loudness and pitch of subjective noises. Valuable help, however, was obtained occasionally from musically trained patients, complete sets of tuning-forks and rods, etc. Seiler found: (1) That ordinary tinnitus aurium never transgressed the limits of pitch from D—1 (297 vibrations) as the lowest point, to F—2 (704 vibrations) as the highest. It had no appreciable effect upon articulation or vocalization, but invariably and materially affected the perception of those sounds which had nearly the same number of vibrations per second. (2) That subjective noises of so-called cinchonism arising from the administration of such drugs as quinine, sodium sal-

icylate, alcohol, ether, and many others were invariably of a very high pitch, varying from G—3 (1584 vibrations) and even higher. (3) In the case of musically educated persons it was found that the noise was composite in character, being made up of a variable number of individual sounds. These were sometimes harmoniously blended, thus forming a chord, the fundamental tone of which varied in pitch with the drug used. It was usually lowest if quinine was the cause, and highest where sodium salicylate was being exhibited. This Seiler had frequently verified in his own person. (4) Any composite noise of high pitch, such as the hissing of steam or the sound of a rapidly revolving grindstone, interfered both with pronunciation of certain consonants and with their proper appreciation by the ear. Such consonants were those which had for their characteristic (as pointed out by Helmholz and others) a combination of sounds of very high pitch, such as "th," "s," "sh," "z." This fact was recognized by workers among machinery when their attention was called to it. It could be easily explained by the well known acoustic law of interference with each other of sound waves of nearly equal length; and that the higher the pitch of two non-harmonious sounds, the greater the difference can be in the number of vibrations allowing interference. But acoustic laws completely failed to explain how subjective and in reality physically non-existing noises, such as those of cinchonism, undoubtedly interfered with the pronunciation of those consonants already referred to, and even with the quality of high-pitched vowel sounds.

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### The Physiological Effects of Balloon Ascents.

At the meeting of the Paris Academy of Sciences, held on November 25, 1901, M. Gaule (*Lancet,* Dec. 14, 1901) laid before the society the result of some researches which had been undertaken by himself with a view to ascertain whether the results of a balloon ascent were comparable with those obtained at a high altitude on land—*e. g.,* at the top of a mountain. The most notable of these is a marked augmentation in the number of red corpuscles. Viaux and sundry observers who followed him have ascertained that at a high altitude there is a great increase in the number of red corpuscles. Thus in the Cordilleras, at a height of 4000 meters, Viaux found 8,000,000 red corpuscles per cubic millimeter. M. Gaule wished to see whether in a balloon ascent, where ascension is very rapid and entails no muscular exertion, a similar phenomenon would occur. He made two investigations at heights of 4200 and 4700 meters, and found in himself 8,000,000

red corpuscles per cubic millimeter. Further, M. Gaule at a height of over 4000 meters made some blood-films stained after Ehrlich's method with eosin and hematoxylin. This nucleus was in many instances segmenting, and also groups of three or four corpuscles were seen as if they had undergone subdivisions. Similar preparations made before the ascent showed no such appearances. M. Gaule therefore considers that at high altitudes there is an actual formation of red corpuscles, and that this takes place with great rapidity.

At the following meeting M. Tissot and M. Haillon gave an account of researches on a somewhat analogous subject. On November 21 they undertook some researches at various altitudes into the physics and chemistry of the respiration. Experiments were made at the following heights: 1350 meters, 2600 meters, and 4450 meters in the case of M. Tissot, and at 1700 meters and 3500 meters in the case of M. Haillon. The chemical phenomena of the respiration did not vary appreciably at these different altitudes. The respiratory rhythm, however, was greatly modified. Although the total quantity of air entering the lungs was less, the number of respirations was not sensibly altered. It would thus appear that at high altitudes the air is purer and more completely used.

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## An International System of Quarantine.

In an article in a recent issue of the *New York Medical Journal,* in which he advocates an international system of quarantine, F. W. Foxworthy says that from what he has seen in his travels the following points were the most prominent: (1) Variations in quarantine in the same country, as seen in Calcutta, Bombay, and inland cities of India. (2) Variations in quarantine between different countries. (3) Because of these numerous variations, the liability of the spread of the infectious disease is increased. (4) Danger to travelers detained at quarantine stations from infection received there. In certain South American countries, the writer is informed, the quarantine has been carried out with more energy than judgment, and persons free from disease have been cooped up on the same ship with the infected until they survived or perished. (5) Injurious effects on commerce, from variation in quarantine systems. This has become a leading question since American commerce has expanded around the world. Infectious diseases follow the lines of trade. A uniform system, both at the port of export and at the city of import, will save millions of dollars' worth of goods, whether it be coffee from South

America in New York harbor, or tobacco from Manila somewhere else. (6) The use of pernicious disinfectants; formaldehyde not only ruins all leather goods, but it is a violent irritant to all mucous membranes. (7) The absurdities of different systems, such as is seen when a city, an incubator of the plague, quarantines against one it has infected, and where plague is not endemic. The burlesque on quarantine which is now seen in Egypt would be obliterated were a rational international system adopted.

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### Beriberi and the Heart.

The following conclusions upon this subject are made by A. Stanley (*Journal of Tropical Medicine,* November, 1901): (1) Beriberi has a marked degenerative action on the heart muscle, which frequently causes fatal circulatory failure. (2) In this respect beriberi resembles other toxemic diseases, such as diphtheria, influenza, and alcohol and arsenic poisoning, which often cause peripheral neuritis, and also other toxemic diseases, such as typhoid fever, plague, and acute rheumatism, which do not, or rarely, give rise to peripheral neuritis. (3) Beriberi and diphtheria are the diseases *par excellence* in which sudden fatal heart failure occurs. (4) The heart muscle degeneration is a secondary result of neuritis of the vagus. (5) The heart muscle degeneration takes place, as a rule, before skeletal muscle degeneration, and is the result probably of direct action of the toxin, and not a secondary result of nerve change. (6) Sudden heart failure does not indicate a sudden lesion, but rather is the result of a gradually increasing heart weakness from cardiac muscle degeneration, which may be precipitated by any sudden exertion, but more frequently is the result of the principle of "all or nothing"—the transition from "all" to nothing being necessarily rapid. (7) The cardiac physical signs in beriberi closely resemble those found in diphtheria, and are of paramount importance in prognosis and treatment.

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## THERAPEUTICS.

### Suprarenal Extract as an Antidote for Chloroform.

Dr. T. G. Brodie (*British Medical Journal,* Nov. 23, 1901) demonstrated a method by which the total work performed by the heart of an animal could be determined before and after the administration of a drug. The work was ascertained by recording the

total output of the heart, made to discharge into an automatically working Stromuhr, under a pressure maintained constant by a second piece of apparatus. The total work was the product of the output multiplied by the mean pressure. Anesthetics had up till then been chiefly studied. Chloroform markedly depressed the working capacity; ether, on the other hand, had but little effect unless given in very large doses. Ethylene chloride had only a slight action. Adrenalin chloride greatly increased the rate of the beat, and largely augmented the work performed. It was an antidote to chloroform. If administered first, the heart withstood much larger doses of the anesthetic, while a heart greatly depressed by chloroform recovered completely when adrenalin was introduced.

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### The Sanatorium Treatment of Phthisis.

R. W. Philip (*British Medical Journal,* Dec. 14, 1901) advocates the plan of placing those affected with pulmonary tuberculosis in sanatoria for treatment.

He says the conception of pulmonary tuberculosis in the past has been, and still is by many, too much that of a localized lung disease, while the constitutional condition has been insufficiently considered. So far as treatment is concerned, the reverse must be the case. The constitutional, rather than the local, disorder must be kept in view.

The systemic disturbance is immense. To combat this successfully implies a vast systemic reformation. A return to the physiological life must be the aim of treatment, whether conducted in a sanatorium or at home.

The observed phenomena indicating the tendency toward natural cure are in no disease more striking than in tuberculosis. The chief object of treatment must be to limit as much as possible those factors which diminish the normal resistance of the tissues, and to interpose no obstacles in nature's path through clumsy attempts to hasten cure.

The writer believes the open-air or sanatorium treatment has come to stay, because the method is physiological. Not even when the therapeutic activity of tuberculin is rendered more definite can a method which is no less prophylactic than curative be discounted.

Much will depend, too, on the earliness or otherwise of diagnosis. The comparative certainty of cure in early stages of the disease affords one of the strongest incentives to exactness in early diagnosis. A week or month lost in relation to the determination

of this may require to be multiplied many times in relation to the treatment of the disease. Further, much patience will be required both on the part of the sick man and his attendants in order to prevent disappointment as to final result through undue curtailment of the period of more rigid treatment. Nor less disappointing may prove the later attempt to force nature to maintain a cure—which has been achieved with difficulty under physiological conditions—under conditions the reverse of these. Hence in all cases, but more especially among the working classes, the question of after-life becomes one of pressing moment. It is disappointing to find that patients who recovered perfectly well, and who retained recovered ground for months or longer—indeed, so long as they were able to lead a physiological life—have gone back to the old state or still further simply because by force of habit or necessity they fell from the physiological path.

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### Some Investigations upon Antivenene.

J. McFarland (*Journal of the American Medical Association*, Dec. 14, 1901) from a large number of experiments with antivenene has drawn the following conclusions:

1. It is not difficult to produce immunity to the nervous poison contained in serpent's venom, as shown by Wolfenden, Phisalix, Bertrand, and Calmette.

2. This immunity when carried to a high degree is associated with a marked antitoxic power of the blood.

3. It is very difficult if not impossible to produce immunity to the irritative poison of the venom.

4. Antivenene does not protect very powerfully against the irritative poison.

5. Antivenene protects against the nervous poisons of various venoms.

6. Immunity to the unmodified venom is better secured by intravenous than by subcutaneous injection.

7. Calmette's method of immunization with the modified venom is greatly to be preferred to the method of immunization to the unmodified venom as tried in these experiments, because of the modicum of danger and suffering to the horses used.

8. Calmette's antivenene is more useful for the treatment of the bites of cobras and colubrine serpents than for those of vipers, etc.

9. As the antivenene protects against the chief death-dealing element in the venoms, it is of great use in the treatment of all serious bites, and should be used whenever possible.

10. The neutralization of the nervous poison of the venom by antivenene will enable the individual to devote all his vitality toward overcoming the local injury done by the irritative globulin in the venom.

11. All individuals—certainly not all horses—are not equal in their resisting power against venom. Two of his three horses succumbed quickly to the venom injections.

12. The antivenene-producing power varies in different horses.

13. The quantity of antivenene in the blood varies from time to time according to circumstances.

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## Methylene Blue in Otitis.

According to Prof. H. Gaudier (*La Semaine Médicale; Merck's Archives*) instillations of a warm two-per-cent solution of methylene blue (medicinal) into the auditory canal render excellent service in the treatment of certain chronic forms of otitis media, especially in fetid otorrhea of children. The method employed is as follows:

After having cleansed the canal by means of a warm soap-and-water injection, the patient turns his head to one side, and 15 to 20 drops of the solution mentioned above are instilled into the ear. This procedure lasts five minutes, and during this time the patient performs the maneuver of Valsalva; that is, he makes a forced expiratory movement, while keeping nose and mouth closed. Air is thus forced into the ear, and the methylene blue passes from the canal into the tympanic cavity. Nine old cases, with perforation of the tympanum, treated in this manner showed marked improvement. The deodorizing properties of methylene blue render it superior to other antiseptics, and the purulent discharge diminished under the influence of the remedy more rapidly than under other treatment.

In ordering methylene blue, emphasis should be laid upon getting a pure medicinal article, as there is a dye on the market of the same name.

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## The Treatment of Anthrax.

The expectant treatment of anthrax in the human subject is strongly supported by Bramann (*British Medical Journal,* Dec. 9, 1901) and his pupils, while the energetic local treatment has its

champion in Germany in Strubell. Considering the arguments of both sides carefully, and making his own deductions by comparing a severe case of his own in which recovery took place, in spite of practically no general and local treatment, with one of Strubell's, in which recovery followed energetic cauterization and other local treatment, Schultze (*Deut. Med. Woch.,* Oct. 3, 1901) declares himself rather in favor of local treatment, but by no means wholly impressed by the necessity of it. He has seen a case in which the prognosis appeared to be very bad recover without much treatment, and on the other hand regards energetic local interference as not altogether free from danger. On the whole, he advises early cauterization of the pustule, and even destruction of the healthy surrounding tissue, whenever this is practicable.

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### Lactic Acid in Alopecia.

Balzer (*Journal des Praticiens,* Aug. 24, 1901) recommends the following treatment for alopecia: After cutting the hair short and washing with soap the following lotion is applied: Perchloride of mercury, 1/5 part; acetic acid, 1 part; alcohol, 100 parts; ether and alcoholic solution of lavender, of each 50 parts. After drying the head is rubbed with lactic acid, about 30-per-cent.

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## OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

### Tubercular Dacryoadenitis and Conjunctivitis.

E. Stieren (*Johns Hopkins Hospital Bulletin,* November, 1901) reports a case of this disease and says that tuberculosis of the conjunctiva may be either ectogenous or entogenous; tuberculosis of the lacrimal gland must be hematogenous.

The presence of the tubercle bacillus in tuberculous conjunctivitis and tubercular dacryoadenitis is not a *sine qua non* of the disease. In the present case, repeated examination of the matter from the ulcers of the conjunctiva failed to show the presence of tubercle bacilli, nor did inoculation in animals produce the disease. Burnett speaks of a case he observed for more than a year, in

which the clinical picture was one of tuberculosis of the conjunctiva, and yet he could not find a single tubercle bacillus after repeated examinations; inoculation in rabbits likewise proved negative.

Tubercular dacryoadenitis and conjunctivitis may undergo cure; surgical intervention is indicated only after therapeutic and proper hygienic measures fail, since it is a universally recognized fact that tuberculosis in other parts of the body is often cured outright spontaneously, the cure being effected by a marked increase of connective tissue.

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## DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,

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### Carcinoma of the Skin of Slow Growth.

In a paper read at the fifty-second annual meeting of the American Medical Association, in the Section on Cutaneous Medicine and Surgery (*Journal of the American Medical Association,* Dec. 14, 1901), William Frick, M.D., Kansas City, reports the following case: We can conceive of several conditions under which a carcinomatous tumor of the skin may have a history of long duration. A growth may be innocent in its character in the early history of its development, and change after many years of duration to a carcinomatous type. A known epithelioma may remain stationary, or nearly so, for years, apparently neither increasing nor decreasing, after which it increases rapidly: this will give a long history to the tumor. Then, again, carcinomatous cells may be encapsulated, according to some observers, which may prevent their extension for many years.

About thirty-five years ago the patient first observed the growth on the back, between the shoulder-blades and just to the right of the spine. It was then about the size of an ordinary pea, elevated above the surrounding skin, and nearly the color of a ripe strawberry. It grew gradually, but very slowly, and did not ulcerate or break the epidermal covering for the first fifteen years of its existence. At that time the growth was no larger than a five-cent piece. The skin was at that time broken, leaving an elevated raw-looking surface, which had very much the appearance of spurious granulation tissue, and it bled quite freely. The growth continued to increase very slowly. There seemed to be a

constant attempt on the part of nature to heal, which resulted in a partial covering of epithelium in very thin layers; this was over only part of the growth at a time. Beneath this thin covering could be plainly seen very fine blood-vessels, branching out in various directions. The entire growth was full of blood, and the slightest touch was sufficient to cause bleeding. The tissue making up the mass was quite friable and could be easily scraped out. There was no subjective sensation in the growth. The history given by the patient and his wife, as well as the author's observation of it for the last five years, would indicate that the character of the growth has not changed since ulcerative processes were begun at least.

The shape of the tumor was irregularly oval and measured 2½ by 3 inches in diameter. It was elevated about one-eighth inch above the surrounding skin, and its edges terminated abruptly. It was quite movable with the skin, free from induration, solitary, and painless. About a third of it had no epidermal covering, but looked more like large spurious granulation tissue than anything else. Another third had a very thin covering of epithelium with the tiny blood-vessels quite apparent just beneath, while the remaining portion had a thicker epithelial covering with no blood-vessels visible, but a thin skin resembling the normal, with the pathologic tissue beneath.

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## GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

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### Fatty Fibroid: Lipomyoma of Uterus.

Knox (*Johns Hopkins Hospital Bulletin,* October, 1901) detected this condition in a woman aged sixty-two, who had borne thirteen children and miscarried three times. The menopause occurred at fifty. Three years later serous vaginal discharge was noted and returned after an interval of eight years. It soon ceased, and recurred a year later, a few weeks before operation, when moderate but continuous bleeding had gone on for a fortnight. The discharge had never been fetid. A large firm tumor was found connected with the uterus, filling the pelvis and extending almost to the umbilicus. Kelly removed the uterus and appendages by the supravaginal route. There were no firm adhe-

sions, but hemorrhage gave some trouble. The patient was in fair health eighteen months after the operation. The tumor was taken for an ordinary fibroid until in the routine examination of the specimen in the laboratory of the Johns Hopkins Hospital it was discovered to be made up of large fat cells enclosed in a supporting substance composed of smooth muscle and connective tissue in varying proportions. On section the tumor presented to the naked eye all the appearances of a common myoma; but on careful scrutiny yellow deposits could be detected, and on scraping oil globules could be brought away, a condition unknown in pure myoma.

Cullen, in a discussion on Knox's specimen, stated that it was the sole example of lipoma detected in 600 fibroids systematically examined in the laboratory, where there were at least three specimens under examination in which sarcomatous tissue was detected in myomata. There is little information in medical literature about lipomyoma of the uterus. Seegar (1853) reported a fatty uterine polypus. Thomas Smith and Paget described in 1861 a fibroid uterine polypus which contained an adipose tumor of the size of a pigeon's egg enucleated from the rest of the growth. Schoinski, of Chicago (1880), excised a small movable tumor from the anterior lip of the cervix, and on microscopical examination it proved to be a lipoma.

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### Cocaine in Obstetric Practice.

Westphalen (*Medical Press,* Dec. 11, 1901) first made some experiments with it in various forms of lingering labor, applying it to the floor of the pelvis. He found that it did not prevent reflex abdominal pressure; but on the contrary it increased it to an extraordinary extent. It was clear that by partial anesthetization of the pelvic floor certain inhibitory reflexes were temporarily abolished, so that the expelling power of the abdominal muscles had free play. For the past two years he has been employing cocaine in this way in cases in which, with low-lying head, dilated or nearly dilated os, and ruptured membranes, abdominal pressure does not come on, or only imperfectly; further also, in cases of spasmodic contraction of the uterus, and in those cases where severe pain remains during the pause between the pains. The pains became regular in from five to ten minutes after the introduction of a cocaine suppository, and remained so. No ill effects have been observed. Larger doses than 0.03 gramme have never been ordered, but a second suppository has been given in an hour and a half if necessary. It was never noticed that the pains became weaker, but the abnormal pains were relieved.

# THE MEDICAL AGE

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## ORIGINAL CONTRIBUTIONS.

### THE CULT OF CENTENARIANISM.

BY P. H. KINNEAR, CINCINNATI.

If most men and women who have reached, or passed, fifty years of age were asked if they desired to live fifty years longer, all would, perhaps, hesitate before answering the question. Longevity is a relative term. Sir Henry Holland, in writing several years ago in the *Edinburgh Review* of the long lives of Henry Jenkins (said to have lived 169 years) and the Countess of Desmond (148 years old), regards the statements with doubt, but adds: "Yet we cannot equally reject the evidence as to the 152 years of Thos. Parr, accredited as it is by the testimony of Harvey, who examined his body after death and records the singular fact that the viscera were all sound, the cartilages of the ribs not ossified, and no obvious causes why he might not have lived yet longer, but for the surfeit of food and changes in his habits of life which followed his removal to London and to the Kitchens of the Royal Palace."

Hallen and Hufeland, after citing several cases of life exceeding 150 years, affirm it as probable that with the organizations and vital forces of man it may be possible to reach 200 years of life. Modern scientists do not, however, believe in this theory. Doctors will often, even in these enlightened days, politely agree to disagree, especially on such a mysterious subject as longevity. For even when a man, or woman, reaches 100 years of age there seems to be no way of determining what caused the extreme term of human existence. And yet in New York and other cities, where they seem to think that anything can be done with money, they have formed Hundred Year Clubs, and announce their firm determination to reach the century term or die in the attempt. Success to them!

As to longevity and its causes, observers and philosophers from

the days of Aristotle to modern times have gathered facts and speculated upon the interesting subject. So very modern a man as Mr. Ray Lankester seems to think that the sun and moon have certain kinds of influence upon death, sleep, reproduction, puberty, and length of days. The duration of life, it is generally conceded, may be influenced by the changes of day and night, wet and dry seasons, and winter and summer. Hufeland in his famous treatise "On Prolonging Life" borrows largely from Lord Bacon's "History of Life and Death." Strange superstitions and traditions influenced the minds of men, even of such gifted ones as Bacon, and in those days he was not able to withdraw himself from such impediments to full and free investigations.

The backward condition of science and priestly bigotry were also in opposition, as Galileo found to his sorrow when he timidly suggested that the earth might possibly revolve around the sun instead of the sun swinging around the earth. But the church would not hear of such a thing, and as the chains of the Inquisition began to clank in an adjoining room, Galileo "perjured himself like a gentleman." So Lord Bacon, who, though a very wise man, probably made mistakes when he wrote about longevity, still many of his views and thoughts are worth reading.

Hufeland, living some time after Lord Bacon, was able to treat the subject of prolonging human life in a more scientific manner than the earlier writer. After a careful study of the subject he came to the conclusion that the duration of life depends on the following circumstances: First, the quantity of vital force contained in the body; secondly, life consumes and destroys not only vital force, but also the organs, so that the destruction of life ought then to occur later in a body endowed with vigorous organs than in one of which the organs are delicate; and so on. The work of P. Flourons, of the Academy of Sciences, of Paris, has also attracted much attention. His suggestion of fixing the period of growth by the junction of the osseous epiphyses is now considered by scientific men of great value. He comes to the conclusion that in mammals and man the period of growth determines the duration of life. If a man gets his full physical development by twenty, then he, if he lives according to the laws of health and nature, ought to die at or even beyond a hundred years of age.

Mr. Leo H. Grindon, in his book, "Life: Its Nature, Varieties, and Phenomena," uses the data of Bacon, Hufeland, and Flourons to a large extent, without anything of much value of his own. Herbert Spencer treats the subject also in his "Principles of Biology," and his thoughts seem to have just at this time more weight than those of other writers. In January, 1869, Professor Huxley said in a lecture at Edinburgh: "At any rate, the matter

of life is a veritable *peau de chagrin*" (alluding to Balzac's famous story), "and for every vital act it is somewhat the smaller. All work implies waste, and the work of life results directly or indirectly in the waste of protoplasm." And Herbert Spencer tells us: "Protoplasm that has become specialized tissue cannot be again generalized and afterwards transformed into something else, and hence the progress of structure in an organism by diminishing the unstructured part diminishes the amount *available for making offspring.*"

Among the various fantastic theories for prolonging life in former times, one of the most popular at the end of the eighteenth century was what was termed "retarding vital consumption." Maupertius fancied that a complete suspension of vital activity, a sort of Rip Van Winkle sleep, might be produced so as to check self-consumption. Bodies in this state could be laid away, and then resuscitated after a lapse of two or three centuries! Benjamin Franklin, even while living in France, seems to have had faith in this theory. One day, he relates, some bottles of wine were sent to him by a friend in Virginia. The month was July, and some imported flies, which had by accident fallen into the bottles of wine when on a spree, were noticed by the doctor. He determined to utilize them in an experiment. The flies must have been drowned in the wine five or six weeks before Franklin received them. They were exposed to the heat of the French sun. Three hours passed, and the winged Virginians began to stir and soon came to life again. Dr. Franklin was much surprised, and writes of the incident thus: "Since by such a complete suspension of all internal as well as external consumption it is possible to produce a pause of life, and at the same time to preserve the vital principle, might not such a process be employed in regard to man? I can imagine no greater pleasure than to cause myself to be immersed, along with a few good friends, in wine, and to be again called back to life at the end of fifty or sixty years by the genial solar rays of my native country, only that I may see what improvement the State has made and what change time has brought with it." The period of growth having ceased, the balance, the equilibrium, between nutrition and expenditure might be maintained for a long time, but just then usually sets in the period of imperative desire for reproduction, and consequent loss of vital energy and life strength. According to some writers on longevity, the expenditure of life-force, or energy, is of two kinds. One consists in the wear and tear of strength in seeking food and digesting it for the necessary keeping up of bodily power; the other in the propagation of the species by the separation of living portions of the parent organism. By diminishing the former (the food supply) or increasing the

latter (the excesses caused by reproduction) you antagonize longevity; or in other words, excess of the passion of paternity shortens men's lives.

In Herbert Spencer's "Principles of Biology" his chapters on genesis and multiplication show the bearing which they have on the antecedents of longevity. The difficulty of obtaining facts as to the duration of human life surprised Lord Bacon, even, and Mr. Ray Lankester, in his "Essay on Longevity," which carried off the prize offered by the University of Oxford, does not hesitate to say that "Men do not tell the truth as to their age, either from ignorance or deceitfulness."

As to certain theories of life, this one of Buffon has been much criticized and discussed. He held, and Flourens revives the same topic, that taking all created beings into account the total quantity of life on the earth is always the same. The Creator, he thought, had brought in an incalculable number of living organic molecules, indestructible and common to all organized beings, the material of generation, growth, and duration of existence. Death, while it may destroy, also dissolves forms or lives, but does not annihilate these molecules, which pass into other forms, giving and maintaining life as before, and being always the same in total quantity on the earth. Buffon's *molecules organiques vivants* are a pretty form of scientific poetry, or rather fancy, for he really gives us no foundation upon which to base his theory. In fact, it would be almost impossible to gather such facts. As Sir Henry Holland in reviewing the book of Flourens says: "We have no knowledge, or means of obtaining it otherwise than by vague approximations, as to the total quantity of life on the globe."

It was once thought that people died from lack of what was called "the vital principle." It is a phrase which has a fine, vague, mysterious sound, but it really means little or nothing. In other words, it is now conceded that death comes from disintegration, often very gradual, it is true, in all the bodily organs, brought about by the all-important blood being blocked up by the accretions, which close the channels leading from the heart. Most magnificent and most wonderful muscle as the human heart is, it may get clogged in such a way by the earthy salts in the blood as to be unable to perform its regular functions. Then the life fluid cannot be kept in proper circulation. Really it is a wonder that one does not wear out long before he usually does. And it forces a new kind of admiration from the thinking man when he sees for the first time a human being who has lasted 100 or 115 years, and whose heart is still working on after all this enormous expenditure of force. The eyes, ears, and stomach all have a rest, but the heart keeps on through waking hours as well as through

sleep. Pauses between the beats are all the vacations it gets, which seem to be no rest at all. When one does not dream, even the brain seems to sleep, or at least it gives peace and quiet to its owner.

Much has been written and talked about the great importance of vegetarianism in relation to health and long life. None of the many centenarians of whom we have accounts, however, were strict vegetarians. Many of them ate very little meat, but this was usually owing to the fact that they had lost their teeth, or could not afford to purchase artificial ones; for it must not be forgotten that a great number of these old people are in the poorhouse. And that seems to be one of the many dangers of the cult of centenarianism. If one escapes every other thorn in the path, he is apt to find in the blue distance the hideous portal of the poorhouse. Hence it behooves the striver for longevity, like the other struggle-for-lifers, to look sharply to the leaks in his pocketbook and the prime importance of saving up for those rainy days of the distant years. The *New York Herald* of December 30, 1900, had a list of over twenty men and women then living who were 100 or over 100 years of age, the portraits of ten of whom were given. Of these people two were 129 years of age, and one of 118, one of 112, and nearly all the others over the century mark.

A census of the centenarians taken in France in 1895 gives 213 persons of 100 years of age and over, of whom 147 were women and 66 men. The oldest of all was a woman who had just died at 150 years of age in a village of the department of Haute-Garonne. So that the contention that human beings might live to be even 200 years old is not so fanciful as it seems to the superficial and thoughtless thinker.

In order to show how an intelligent and scholarly man of over 100 years lives, and what he eats and drinks, let us take this from the London *Times* of September 1, 1888: It was stated that Mons. Chevreul, of Paris, had just entered his 103d year. His health is excellent; he eats and drinks heartily, sleeps well, drives out daily in a one-horse chaise, and enjoys things as well as most men of half his age. He rises early, takes a plate of soup, goes to bed again, sleeps till noon, then breakfasts off two eggs and minced meat, at four takes a bowl of milk and two biscuits, lies down again for two hours, then has another plate of soup, and goes to bed for the night. On September 4, 1888, he visited the Sanitary Exhibition in Paris, and arm-in-arm with a friend he mounted the stairs and walked all through the exhibition. From which it seems that because a man is 103 years old he need not sit up in a chimney corner and fret, as so many people we know do when they are not more than 60 or 70. As M. Chevreul seems to eat minced meat, though he steers clear of pies of a minced

order of culinary art, it is just as well to follow his rules. All in all that is not a painful kind of diet, and some of us at 70 might try it to the advantage of our daily health and comfort. In early life protein food—that is, food of a nitrogenous kind—is necessary to build up the muscles and bones. But in old age one is apt to get too much of the nitrogenous substance in food, which has a tendency to overload the blood with earthy salts and thus clog and impede the action of the heart and arteries. Exercise of a physical character, and also intellectual occupations, contribute to give variety to life and promote longevity. Work, now, for instance, is something one does under a sense of compulsion—something you have to do to make a living and would not do if it were possible to avoid it. Many people cannot be happy, though, if they have no work to do. American Indians and British noblemen are very much alike in many ways; they never work, but spend their time in fishing, hunting, and love-making. The late Sir Henry Holland excelled in horsemanship at 84; and Hahnemann, the founder of the homeopathic school of medicine, married at 80 and was an active worker and enjoyer of life up to the age of 90.

Commonly received opinions are to the effect that the poor old people have few pleasures. But we read of some of them dancing at 100 and going out in the field and making hay. In my opinion, however—and I am only 70—a centenarian of good form should not indulge in either of these frivolities. It is more dignified to let the young people tackle those pleasures, standing off at a little distance, patronizingly looking on and hinting casually that when he was young they did those things in much better style.

Dr. Humphrey, of England, in his book "Old Age" tells us that exemption from many of the ills of younger people is one of the compensating advantages of advancing years. He states that the aged body does not seem so prone to disease as he had expected before his investigations. Few returns indicated any special malady. Cancers, even, when they attack the aged, usually make very slow progress, and often fail to make way at all. Susceptibility to contagious disease appears to decrease from infancy to old age. In the *British Medical Journal* of July 12, 1884, it is stated that the healing of ulcers and the repair of wounds and fractures in old people take place as rapidly as in middle life, and often more so. Qualities that lead to extreme length of years are, as might have been expected, a well made frame of average stature (though Sir Moses Montefiore, the well known and generous Jew, was 6 feet 3 inches high and lived to 102), spare rather than stout person, good health, robust constitution, freedom from ailments—and I was just going to write, few or no doctors' bills; but as this is a

medical journal perhaps I had better omit that, for we can't get along without the help of that class, at least in this world—I don't know about the other one.

And *apropos* of this, Sir Henry Holland says the true reason that doctors do not become centenarians is that they work so hard for humanity and are exposed to so many diseases that things generally are against them. The D.D.'s looking after people's souls are, as the records show, longer lived than the M.D.'s who only attend to their bodies. The explanation probably is that soul diseases, being usually imaginary, are not therefore infectious, while body diseases, being real, are apt to become dangerous. Sleeping well and early rising seem to be gifts of the centenarian class. In some of its aspects nothing seems to be so capricious and eccentric as law in regard to longevity. First-born children, and also those born out of wedlock, were formerly believed, in England and Scotland, more likely to live long than any others. Sir William Temple states that health and long life were usually the blessings of the poor, probably because the poor do not eat too much unnecessary food merely for the pleasure of the palate, as the richer classes do as a rule.

The use of distilled water after sixty years of age has been recommended as a fine solvent for earthy salts which accumulate in the body. Persons who hesitate in regard to its use had better consult their physician, as he is presumed to know their body better than any one else.

As to eating meat to get strength, it is a singular fact that the gorilla—more like a man than any other animal, as Professor Huxley tells us—never eats flesh, but lives entirely on fruits and nuts. He is far stronger than any man, too, on that diet.

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## THE USE OF OPIUM IN LEAD POISONING AND IN CARDIAC DISEASE.

BY CHAS. R. WILSON, M.D., PHILADELPHIA.

Opium is a drug with a bad reputation; justly or unjustly it has acquired a name for disastrous results. The surgeon says the physician uses it to mask the symptoms of approaching peritonitis, while the public says its use means the making of opium fiends and morphine eaters.

This reputation I believe is undeserved; I believe opium rightly used is one of our most valuable drugs, and I report the following cases to illustrate my meaning:

*Case 1.*—A Russian woman, a recent immigrant, twenty-two years of age. She is a sewing girl. Her health up to the present attack had always been good. During the past year she has had frequent attacks of frontal headache, coming on usually late in the afternoon. Having some imperfection of vision she attributed the symptom to this. Her appetite has been good, and her menstruation normal. Four weeks before admission she complained of having cramping pains in the abdomen; accompanying these was diarrhea, frequently of a bloody character; she had about four movements daily. These disturbances disappeared in a few days, but the pain in the abdomen persisted up to the time of her admission to hospital. During the two weeks immediately preceding her admission she was seized with vomiting. When I first saw the patient she was thin and delicate and somewhat anemic, as sewing girls are apt to be, but I could perceive no condition which would indicate any diseased process. The only symptoms were those I have already described. In looking at her mouth, however, I perceived a distinct blue line at the junction of the teeth and gums, below the lower incisors and above the upper incisors and canines. I know of only one condition which would cause this, namely, lead poisoning. In these cases, however, constipation is generally the rule, diarrhea the exception; still the latter occasionally occurs. Upon inquiry I could find but one reasonable explanation for the poisoning. Sewing girls are in the habit of licking the threads they use in order to give them a fine point. The thread contains lead, and by its continued contact with the girl's mouth it brought about the intoxication.

The treatment of lead poisoning divides itself under three main heads. The indications are, first, to subdue the pain; secondly, to regulate the bowels, which are usually constipated; and thirdly, to eliminate the lead from the system. To subdue the pain, opium is probably the best agent; for the constipation, which is generally the rule, a saline purge such as Epsom salts or Rochelle salts is useful; while for the elimination of the poison, potassium iodide is good. According to the usual consensus of opinion as expressed in the text-books, the first indication is to overcome the constipation; they state that the pain is a matter of secondary consideration, and that once the bowels are opened the pain will soon disappear. I have not found this to be the case in my experience. I believe that in lead colic the first indication is to relieve the pain, and that once this is done the treatment of the constitutional symptoms becomes much simplified. In treating many cases of this kind I have reached a definite course of procedure. I give usually a quarter grain of powdered opium and one-twelfth grain extract belladonna, in pill form, every two hours.

for twenty-four hours. I give to open the bowels one-half ounce of salts morning and evening. This measure was not necessary in this case. I am not as insistent upon this procedure as upon the former. In addition to this, if the pains are very severe, as they are apt to be, in the evening I give additional doses of opium, ten to fifteen drops of the tincture, or an additional quarter grain of the powdered opium, or a tablespoonful of paregoric. This quiets the severe pain and thus induces sleep, of which the patient is generally much in need. Under this treatment the pains usually disappear entirely in the course of three days. I have seen larger doses of opium used, but have never noticed that the patient was relieved any sooner than he would be by small doses of the drug. It seems that when the patient cannot be helped by small doses a large dose will not be any more beneficial.

Speaking of this drug, it is well that we conceive a clear idea of its dosage and the dosage of its derivatives, a subject which is rather inadequately considered in most text-books. As a result of a large amount of personal experience I have come to the conclusion that we may with complete safety to the ordinary adult, without any danger of cyanosis, or of contracting the pupil, and without producing any sleepiness, administer a quarter grain of powdered opium twelve times daily (or a total of three grains daily), or ten minims of laudanum every two hours (one hundred and twenty grains per day). As nearly as I have been able to determine, one grain of opium (or thirty grains of laudanum) has an effect equivalent to the action of from an eighth to a quarter grain of morphine sulphate. This latter preparation is more satisfactory as a combination in cough mixtures and other compounds than laudanum, but when the use of large quantities of opium is required laudanum is by far the most satisfactory preparation.

*Case 2.*—A man who had been under my care on a previous occasion six years ago suffering from organic disease of the heart. His history shows nothing which bears any relation to his present condition. The condition is one which is rather common, a dilatation and hypertrophy of the heart without any valvular disease. Six years ago, when he was admitted to hospital, he had an extreme dropsy of the legs, and he was exceedingly faint. At that time when I went into the ward I saw that he was greatly oppressed and was continually gasping for breath. His features were pale and pinched, and he had spells of vomiting and diarrhea. He was almost in a state of collapse from what I diagnosed to be heart failure. I looked into the treatment which he had been receiving. He was being given the tincture of digitalis in doses of fifteen minims three times daily, and had been receiving this for seven days. I considered that a fatal termination would most

probably follow the symptoms which he was manifesting, and determined to try heroic measures. Digitalis was evidently the drug which had been indicated in the case, but it seemed to be doing no good. I accordingly ordered that all the treatment, both dietetic and medicinal, which he was receiving should be discontinued, and that the following should be given: two ounces of milk, one-half ounce lime water, and two ounces of brandy. This was to be followed in fifteen minutes by one-thirty-second grain morphine, two minims chloroform, and one drachm of compound tincture of cardamom. This was to be given regularly, without any regard to any unfavorable symptoms, such as vomiting, and was not to be altered until I so ordered. When I saw the patient on the following day he was still alive, but there was no improvement in his condition. I continued the treatment for twenty-four hours longer. At the end of this time I noticed that the patient, although still in a very dangerous condition, characterized by continual vomiting and sweating, and by pale, pinched features, was greatly improved. From that time on the improvement steadily progressed, until the man was enabled to leave the hospital. Since that time he has been in the hospital only once, two years ago. He has of course been able to do no work, and has had occasional attacks of vomiting and diarrhea, but for a case of this kind he is in a remarkably good condition. His heart is still dilated, and he has been compelled to return to the hospital. I am of the opinion that had I not changed the treatment the man would have died. Especially important was the one-thirty-second grain of morphine incorporated in the prescription. Here again comes in the question of dosage. One-thirty-second of a grain is a very small dose, but it was amply sufficient in this case, and I think that a larger dose would have frustrated my object.

*Case 3.*—I will not go into the details of the history of this case. It is mainly the treatment which I wish to discuss. The patient is a young man who since his fifteenth year has on numerous occasions suffered with attacks of rheumatism. He was in the hospital as a consequence of one of these attacks last March, and was discharged as cured. On October 9 he was admitted suffering with organic disease of the heart. It is a case of extreme irregularity of cardiac action with evidences of enlargement. The indications, which I will not cite in detail, point to a condition of mitral stenosis. He suffers from much oppression, easily catches cold, and expectorates freely. The expectoration is frequently of a bloody character from the extreme congestion of the lungs, due to the cardiac lesions. Except for the irregularity and oppression of which he complains, the circulation seems to be in good condition. The lips and cheeks are of good color. When he

came under my charge he had been taking digitalis. The extreme oppression I thought indicated some change of treatment. Accordingly I prescribed one-twenty-fourth grain of morphine, two minims of chloroform, and one drachm compound tincture cardamom, every two hours for several days. Later it was given every four hours. His heart is at the present time much improved, although it is still very tumultuous in its action. The moderate use of opium in this case, as well as in many others, has been attended with very good results.

It is advisable in talking of opium to mention some cases where its use is contraindicated. Thirty years ago it was customary to give opium to the violently insane. The general consensus of opinion at the present time is that opium should not be used in these cases. A case which I had some time ago well illustrates the danger which attends its use in this manner. I was called to see a young woman who through her devotion to Christian science had become violently insane. I found her in a very violent state. She was running up and down the stairs endeavoring to get out of the house. It was impossible to keep her quiet. I tried several remedies with no perceptible effect. I was accordingly finally compelled to give one-half grain morphine hypodermically. Within a quarter or half an hour the drug began showing its marked physiological action. The pupils contracted, the woman became extremely weak, but was even more violent than previously, and it was only by putting her in bed and forcibly holding her there that we could keep her quiet. So large a dose of opium should never be given except in extreme cases, and then with the utmost care. Moderately used it is a very safe drug, but if abused it becomes very dangerous. The key-note to success in the use of opium is that in new patients we should begin with a very moderate dose and gradually increase if necessary. I dislike the hypodermic use of the drug in ordinary cases, where the immediate action is not required. In uremic convulsions it is best to give it hypodermically.

Much has been said of the habit of opium smoking so common among the Orientals. It has been always spoken of as a highly demoralizing and extremely dangerous practice. Recent researches, however, seem not to agree with this opinion. In a series of articles which appeared in the *Lancet* it seems that the general opinion of the various commissions appointed by the British government to investigate the effects of opium smoking is that the habit is not very deleterious to the individual, that it is even less injurious than alcohol. This shows that the drug taken in small doses does no harm, and it is a knowledge which should be applied in our treatment of disease.

## RELIEF OF PAIN IN NEURALGIC CONDITIONS.

BY E. H. SICKLER, M.D., NEW BALTIMORE, MICH.

When called to treat a case of acute neuralgia, whether of purely nervous origin or resulting from traumatisms, or of a malarial, rheumatic, or gouty character, or a manifestation of autotoxemia, the most important factor from the patient's standpoint is the relief of the pain, which is usually of an excruciating character. In trigeminal neuralgia the suffering produced is sometimes well-nigh unendurable. In sciatica it radiates from the hip to the knee or heel of the affected limb, making either walking or the sitting posture impossible. In the intercostal form the pain will shoot from one intercostal nerve to another. Occasionally the pain may be of a nagging kind, a twinge of pain in the hip on moving the limb, but this mild form is quite unusual.

To effect a positive cure in cases of neuralgia it is necessary to submit the patient to a thorough examination and to discover as far as possible the real cause of the pain. The presence of a uric acid diathesis, of chronic malaria, of kidney disease, of digestive disorders, or of a simple neurotic tendency, will all afford valuable clews as to the method of treatment to be adopted. For the immediate relief of the pains morphine has been the most extensively used and, it may also be said, abused remedy. While a blessing in some cases it has been a distinct curse in others, by setting up a habit from which the unfortunate victim has found it most difficult, if possible at all, to extricate himself. Local applications, such as the use of heat and cold, of counter-irritants, and electricity, may be resorted to with more or less benefit in connection with the internal use of analgesics.

Among these I have recently found in heroin hydrochloride a drug which surpasses morphine in some important respects. Morphine, even when given hypodermically, has the inhibiting effect of opium on the unstriped muscular fibers of the intestines, restraining bowel movements. This we know is contrary to what is most desired in neuralgias of gouty or rheumatic character—that is, the prompt elimination from the blood of all deleterious substances which are causative factors in producing the conditions from which the neuralgia results. Heroin hydrochloride does not have this effect on the intestines, and is not followed by the headache or nausea produced by morphine. The use of heroin is not attended with any cerebral manifestations; it is simply analgesic, and to a lesser degree hypnotic. Moreover, its continued administration does not give rise to any craving.

The following cases will show its mode of action in painful conditions:

*Case 1.*—E. J——, aged thirty-five years, married, sailor, is not only exposed to inclement weather, but is also a moderately heavy alcoholic. He is a heavyweight (220 pounds). He has had attacks of sciatica lasting from two to ten weeks for the past five years, generally in winter. The present attack began January 15, 1901, and since then he complained of excruciating pains in the left leg, running from the hip to the heel along the great sciatic, lesser sciatic, and short saphenous nerves. Locomotion was impossible. Temperature 99½°; pulse 82; urine normal, except for hyperacidity and brick-dust (amorphous urates) deposit on standing. Apparently he was lithemic. I placed him on a rigid vegetable diet, forbade all liquors, applied hot bran bags along the limb, gave him a diuretic, a cathartic, and lithium citrate tablets, grains 5, every four hours. I also ordered tr. aconite, tr. iodine, and tr. opii, to be painted over the affected area. Morphine sulphate, ⅛ grain, was administered subcutaneously, and some ⅛ grain tablets of the drug left with the patient to be taken if necessary for the pain, as he lived some distance in the country. On January 17 I found him in about the same condition as at the previous visit, except that the pain was less severe, which was due to the fact that he had taken all the morphine (six ⅛ grain tablets). His bowels had not moved. Seeing that something else had to be done I withdrew the morphine, and gave him heroin hydrochloride, 1/12 grain, for the relief of the pain. Another cathartic was administered, and the previous medication continued. On January 19 he was much brighter. Heroin hydrochloride had controlled the pain very well; the bowels had moved, and there was very little sensitiveness to pressure along the affected nerves. He could also move the leg to some extent. All previous medication was continued. On January 21 I found him sitting in a chair, and with the exception of an occasional twinge in the hip he felt very well. The temperature and pulse were normal. The lithium citrate was continued, as his urine was still hyperacid. He had not been compelled to take any of the heroin hydrochloride for the last twelve hours. In ten days he was around again, and has since had no repetition of the attack.

*Case 2.*—T. N——, married, aged thirty-five, farmer; previous health good. On February 13, while drawing ice, he exposed himself to great cold by sitting on a block of ice which was covered with a little straw. On February 15 he awoke with severe pains, radiating from the right hip to the heel. On examination I found the great and small sciatic nerves painful from the gluteal region to the knee. Temperature 99°; pulse 76; urine normal. Diagnosis: Sciatica due to excessive cold. I gave him a laxative; applied hot bran bags to the leg, and administered two doses of

1/12 grain heroin hydrochloride hypodermically, injecting at different points along the greater and smaller nerves. In addition to this I left a few doses (1/12 grain) of the drug in solution. Before my departure he felt much relieved. On the 16th his wife came to my office, telling me that he was greatly improved, and only had a slight soreness in the hip. A few days after this the patient presented himself at the office, and expressed himself as cured.

*Case 3.*—Emma G——, aged twenty-eight, has been a chronic invalid for the past ten years. I was unable to obtain a clear early history of the case, but my examination showed a probable reflex irritation of the spinal nerves due to utero-ovarian disorders. One of her first physicians put her in a plaster-Paris cast (jacket) for spinal curvature (?). She has become so accustomed to this support that she thinks she is unable to walk without it. As the result of the constant wearing of this hard plaster cast there has arisen an irritation of the intercostal nerves. This occasionally flares up into a severe intercostal neuralgia. In a patient of nervous temperament, especially in an invalid, it is obviously the better way to attempt to control the pain without the use of opiates. This has sometimes been impossible, and morphine has been given. Since my success with heroin hydrochloride in sciatica I have used this remedy in her case with the best results, and have obviated any risk of establishing a pernicious drug habit.

In Cases 1 and 3 it is conclusively shown that heroin hydrochloride is a much safer and as efficient an analgesic as morphine. In Case 1 especially is the result striking, for in previous attacks the patient had used a great deal of morphine with permanent benefit, and the attacks lasted longer. It is well for physicians to look forward to the patient's future, especially so when prescribing morphine for neurotic persons. Moreover, I can recall no previous cases of neuralgia, sciatica or otherwise, treated with morphine in which the results were as satisfactory as in these two cases.

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## THE IMPORTANCE OF THE TRAINED NURSE.

BY C. C. MAPES, LOUISVILLE, KY.

The position of the trained nurse in the management and treatment of both acute and chronic maladies, and her relation to the attending physician and the patient, have at various times been subjects of considerable discussion and comment, adverse and otherwise, in medical and other press, but her importance has never been sufficiently emphasized.

It has not been many years since the then so-called trained nurse was regarded purely as a luxury—a companion—without other functions or duties than to amuse and entertain the patient; her necessity and her ability as a nurse were neither recognized nor appreciated, and her compensation for services rendered depended upon the liberality of those who, for the reasons stated, thought it advisable or expedient to employ her.

Perhaps in those times there was some reason in the plan followed; in all probability the qualifications of the nurse then did not entitle her to the same consideration that she now receives. In any event the same conditions do not obtain to-day.

The educated and trained nurse of the present is not only a seeming necessity, but is an absolute requirement in the management and treatment of most of the diseases, medical and surgical, to which human flesh is heir. Her function is often more important than that of any other in the domain of medical science; her knowledge of the details of any case which she is called upon to nurse must be comprehensive, accurate, and complete; she must be alike educated and trained in the management and care of the sick under any and all circumstances. The requisite education and training are amply afforded in any of the modern up-to-date training schools, and one is safe in saying that the nurse of to-day who has graduated from any one of these schools is fully equipped for the various duties of her chosen profession. Of course, it must be remembered that there are many nurses who leave the training school, at the end of the stipulated period for graduation, fully and thoroughly equipped so far as education and training are concerned, yet they are unsuccessful in actual practice; but this phase of the subject need not be further considered here.

It is a serious mistake to suppose that the nurse has chosen a calling which requires no tact, no education, no experience, no natural ability, and no physical endurance. The position she occupies is often most unenviable from every standpoint; she stands between the physician and the patient, between the patient and his family and friends, all of whom must of necessity be pleased and satisfied; not only this, but she often stands between the patient and death. Without the constant and careful attention of the trained nurse, recovery in many cases would be impossible, the importance of the nurse being even greater than that of the attending physician. This is a point not infrequently overlooked, or not fully appreciated, all the credit and praise for the successful outcome being given the doctor who treated the patient, rather than the faithful, watchful, competent, and devoted nurse. In many instances she is the only attendant besides the family physician, being required to watch and care for the patient night and

day during a protracted period of illness, which means almost constant attention, sleepless nights, and sleepless days.

Sufficient praise cannot be bestowed upon the nurse for her devotion to her profession and to her patient; particularly is this true when one considers the fact that she is caring for a person in sickness, one who is inclined to be irritable, fault-finding, hard to please, exacting, etc. Think of the tact, determination, and self-denial which the nurse is perforce compelled to possess and practice, to successfully care for her patient under such circumstances; her position is everything but pleasant; in fact, one can scarce conceive an occupation around which hedge more duties of an unpleasant nature. Like the practice of medicine, the nurse finds her practice fraught with hardships from start to finish; that there are but few roses; and that there are many thorns which stick and irritate the flesh. Not that I would paint a picture more gloomy than the conditions warrant, and as a matter of course there are some exceptions to the general rule.

The trained nurse of the present must spend a sufficient length of time in the training school to be entitled to graduation (not less than two years—I believe it should be three), and also have an infirmary or hospital experience, before she is considered capable to meet the exigencies incident to general nursing. The expense necessary to complete her education is considerable, and her fees for services rendered, to be commensurate, should be double what she is ordinarily able to command or collect. The difficulty has been, and still obtains in greater or less degree, that people in general are not educated up to the necessity of the trained nurse, and so do not appreciate the value of her services, nor do they recognize or realize the study required, nor the amount of money expended, in completing the education necessary to adequately equip her for the duties to be performed. They do not stop to consider that she must possess a comprehensive knowledge of almost every branch of medical science, and that to acquire this implies the expenditure of money, energetic study, valuable time, etc. But the hardest part of her work begins when she goes out into the world as a graduated nurse, and whatever may be the amount of her compensation, it is too small in comparison to services rendered if those services be conscientiously and properly performed, as I have reason to believe they are by all regular trained nurses.

Since the adoption of the trained nurse system I believe statistics will prove that the mortality of almost every acute disease has been markedly lessened, and that those patients afflicted with chronic and even incurable maladies have spent the remainder of their days in a condition of comparative comfort, owing to her

superior qualifications as an attendant. It might be argued that these improved results have followed the natural and steady advancement of medical and surgical science. This I am confident is untrue, for, while certain branches of medicine and surgery have made rapid strides toward perfection within the past few decades, it is equally true that other branches have remained stationary. The modern disciple of Æsculapius, in many respects, can boast of no advantage over those who lived and died several centuries ago. Fortunately, however, it may be truthfully stated that the trained nurse belongs to one of the collateral branches of medicine which has made material advances in the last few years, and it may also be said that the acme of perfection has been more nearly approached than at any previous period in medical history. This has been brought about by a higher standard of education on the part of the nurse, a better understanding of her importance, and a more thorough appreciation of the value of her services, both on the part of the medical profession and the laity. So far as the medical profession is concerned, I believe it has arrived at a point where it fully and heartily appreciates the value of the conscientious trained nurse—she is the physician's helpmeet and helpmate in the sore trials incident to sickness and death—but the laity does not yet so understand and appreciate her importance. When people in general shall have become educated to a proper understanding and appreciation of the value of the services of the trained nurse, she will have gained another point in the struggle and can claim a more remunerative compensation for duties performed. Moreover, there should be a better understanding than now exists between nurses and members of the medical profession, as the physician could then more frequently be of material assistance to the nurse, not only in securing her employment, but also in the matter of the amount that she may demand and collect for services rendered. It is, or should be, the duty of the physician to assist the nurse in every possible way, recognizing that she is a most potent factor for good in the practice of his profession. Of course, it must be remembered that the doctor, like all other human beings, is prone to be selfish, but he should consider that the nurse has not a few inalienable rights, and that she as a woman is entitled to his respect and confidence.

Would it not unduly prolong this contribution, the writer would like to speak of the duties of the trained nurse in the management of certain diseases, also the relation of the nurse to the attending physician; but as its length has already possibly exceeded the limit, remarks upon these points will be reserved until some future occasion, *dextro tempore*.

The object of this paper will have been attained if the importance of the trained nurse has thereby been more fully emphasized.

# THE MEDICAL AGE.

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EDITED BY FREDERICK W. MANN, M.D.

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## EDITORIAL ARTICLES.

### IS MALARIA A CURE FOR CANCER?

A web of testimony is gradually closing in the conviction that cancer is a protozoan disease. When this fact becomes undeniably established, there will come the question how in the light of the new pathology the disease shall be cured. Professor Loeffler, of Greifswald, whose convictions on any subject cannot be ignored, after studying malaria has encountered the opinion expressed by almost forgotten writers that this disease is capable of exerting an immunizing effect on cancer, or that it at least exerts on it a favorable influence.

Hippocrates asserted that quartan fever exerted a beneficent influence over other dangerous diseases, but a Hungarian writer, one Tranka, in 1775 noticed that tumors of the scirrhous variety had disappeared after an attack of tertian malaria.

Loeffler now taking account of the fact that malaria has its maximum intensity in the tropics has desired to ascertain the frequency of cancer in these countries. Pagel, who has practiced medicine in Borneo for a decade, tells him that during that time he has never seen a single case of cancer. Loeffler considers this testimony serious enough to suggest that clinicians should experiment in combating cancer by malarial infection. Malarial disease may not be a desirable acquisition, but when it is considered as a question between this and cancer the matter of infection assumes secondary importance.

The cure of one microbic disease by another is indicative of a principle more or less supported by evidence. The cure of sarcoma by infection of erysipelas cocci is not without clinical support, and it is therefore possible that the malarial protozoon infesting the blood may produce just that condition of the organism unfitted for the development of the cancer organism.

The experimental treatment of cancer by malaria will doubtless be undertaken, and if effectual may lead to a new industry; and the malarial mosquito, which is just now receiving the indig-

nant opprobrium of mankind, may be cultivated and protected and transported from the swamps to the homes and hospitals in which the fell organism of cancer is doing its deadly work.

## EDITORIAL NOTES.

### The Need of Sanatoria for the Tuberculous Poor.

At the present time, when so much is being said and written in regard to the prophylaxis and treatment of pulmonary tuberculosis, the care of the indigent sufferer from this affection is not receiving the attention it should. While our general hospitals in all communities are ready and willing to receive all kinds of diseases, the tubercular are refused admission. Phthisical patients form a large proportion of those who present themselves for medical treatment in our hospitals, and if these institutions are for the relief of the sick poor it is certainly unfair to discriminate against so large a class. Municipal sanatoria for the care and treatment of these people are very much needed at present. If this plan be too costly, then the general hospitals might appropriate a number of wards to be used exclusively for such patients. They could be easily disinfected, and in no way be a source of danger to the other inmates.

### Physicians on the Stock Exchange.

The speculating fever is evidently one from which doctors are not exempt any more than other mortals. It is calculated that in the recent slump in stocks the physicians of the country lost more in forfeited margins than would have been adequate for providing and endowing a home, which would have taken care of them in old age.

### A Sanatorium in England.

The King of England has had a large sum of money placed at his disposal for the erection of a sanatorium for tuberculous patients. It is to be constructed on the best lines which original thought and past experience can suggest. To obtain ideas three money prizes of $2500, $1000, and $500 are offered for the best essay dealing with the subject.

# ITEMS AND NOTES.

THE smallpox epidemic in London is steadily increasing.

INFECTIOUS diseases are practically unknown in Greenland.

THE new Swedish hospital at Indianapolis is nearly completed.

THE sixth French Medical Congress will be held at Toulouse during the Easter holidays, 1902.

FIFTY-FIVE HUNDRED students had conferred upon them the degree of M.D. during the past year.

HAVANA is free from yellow fever at the present time, the sanitary condition of that city being excellent.

PROFESSOR FOURNIER relinquishes his clinic at the Hospital St. Louis, Paris, with the present scholastic year.

ACCORDING to recent statistics, the 155 medical schools in the United States show that in all but two the four-year course is compulsory.

THE immigration commissioner of San Francisco has made a ruling which will prevent any ailing consumptives from entering that port.

ONLY physicians who are able to speak the English language will be given certificates to practice medicine in the Hawaiian territory.

THE well-to-do women of India have recently become addicted to small and regular doses of camphor, owing to the supposed cosmetic effect of the drug.

A PHYSICIAN, Dr. John McGaw Woodbury, has been selected by Mayor Low, of New York City, to fill the very difficult position of street-cleaning commissioner.

ACCORDING to late statistics, suicide in Great Britain has increased 200 per cent during the last fifty years. Alcoholic excess is given as the most prominent cause.

IT is said that Johns Hopkins Hospital uses no drugs in the treatment of typhoid fever, and yet has a larger percentage of cures than any other hospital in the country.

THE statistics of the Health Department of Baltimore show that cancer is increasing largely, there having been between four and five hundred fatal cases during the past year.

THE Boston Board of Health has issued an order that all inhabitants of that city who have not been successfully vaccinated since January 1, 1897, should be vaccinated or revaccinated forthwith.

IN no other country in the world are fatherless children better cared for than in Japan, notwithstanding the fact that it has but one orphanage. Every family cares for the sick, destitute, or orphans nearest to it.

THERE has been recently introduced into the house and senate a bill for the establishment of a national leper colony. An appropriation of $50,000 is asked for the erection of buildings and a square mile of public land for the colony.

A BILL was recently passed by the Georgia House of Delegates requiring the teaching, in the public schools of the State, of physiology and hygiene, particularly as relates to the effect of alcoholic stimulants and narcotics on the system.

A STATISTICIAN has discovered that the average business walk in New York is a mile in twenty minutes, and the church-going walk a mile in twenty-five minutes. The fastest walk is that of the homeward-bound Brooklynites, a mile in eighteen minutes.

THE scientific expedition recently sent to Brazil from France for the purpose of studying yellow fever is now installed in Petrolia. Owing to the fact that yellow fever does not exist in that country, little has been done for the object for which the expedition was sent forth.

ACCORDING to custom the Royal Academy of Medicine of Madrid recently attended in a body a solemn mass for the repose of the souls of deceased members—of Spanish physicians and surgeons whose work had reflected luster on their country, and of benefactors of the Academy.

DR. FRED. NOVY, professor of chemistry at the University of Michigan, has produced a new synthetic compound to which he has given the name of benzozone. He says he believes it to be an absolute antiseptic and disinfectant of such intestinal diseases as cholera, typhoid, and dysentery.

ACCORDING to an exchange, a New York physician has constructed a rubber refrigerator bag into which patients with high fevers are placed. The bag contains auxiliary pockets into which

ice is packed, the patient being wrapped in a wet sheet and a blanket. The doctor claims to reduce the temperature to normal by gradually reducing the temperature of the bag from 20° to 40°.

Word has reached New York City that Dr. M. Elezarian Randolph, a member of the New York County Medical Association, who left that city a few months ago for a short sojourn in Persia, is now at Teheran, and has been appointed the personal physician of the Shah.

Raynaud has described the treatment of hydrophobia in Morocco. The hair of the dog, burned to ashes, is applied to the wound; tincture cantharides is given in pill form; or sulphur is applied to the top of the head of the patient, who is kept in a dark room and fed upon sweets; or a gramme of the liver of the dog that bit the patient is taken raw.—*La Presse Médicale.*

Dr. Doyen, of Paris, says an exchange, has announced in a recent lecture that he has observed in cancerous tumors a microbe which he names "micrococcus neoformans." In experimenting with it he succeeded in producing in a cancerous patient a reaction resembling the effects produced in tuberculous subjects by Professor Koch's tuberculin—that is, tending to prevent a return of the cancerous growth. He purposes the continuation of his experiments, as he claims nothing conclusive as yet.

A German professor, by means of a photographic apparatus, has measured the amount of time consumed by the eyelid in the act of winking. His investigations proved that the eyelid descends more quickly than it rises, and that an appreciable pause takes place when the lid has descended. The measurements, obtained by a special photographic apparatus, are as follows: Downward movement from .075 to .091 of a second; the pause is from .15 to .17 of a second, while the rising of the lid takes about .17 of a second, the wink being completed in about .4 of a second.—*Jeweler's Review.*

The *New York State Journal of Medicine* for December, 1901, on the authority of the *Yale Medical Journal*, says that a very interesting case of tuberculosis has just come to the attention of medical experts in Chicago. A large snake has died of tuberculosis, a disease which is very rare among cold-blooded animals. For several months a large African boa-constrictor in the Academy of Science had refused food. Its suffering was so great that the authorities decided to chloroform the reptile, in order to end its misery. To the great astonishment of those present at the autopsy, the bronchial tubes, lungs, and liver were entirely filled with the true germs of tuberculosis.

Prof. Henry L. Brunor, head of the biological department of Butler University, Indiana, makes, says the *Philadelphia Medical Journal*, a startling prediction as to human development. He sees in the future man a being in whom strange transformations shall have taken place; a being in whom brain is master, ruling a body much larger than that of the present man; a body which has lost its floating ribs, its vermiform appendix, and its little toes, and in which many other changes have taken place. He believes the chest and upper and lower limbs will be larger, and that the future man will be much taller than his prototype of to-day.

Moscow, Russia, is successfully operating a new method for purifying the city's water. The plan is to sterilize the water by the introduction of ozonized air. It is said that the bacteria in the water are thus destroyed, and at a comparatively small cost the product is rendered absolutely safe for drinking. The system is based upon the principle that oxygen burns all organic matter with which it comes in contact in water. Experiments with the system have been made in France, Germany, Holland, and Belgium. The water by this method is rendered colorless, sparkling, and odorless. The cost is about $6.25 for each 1,000,000 gallons.

In his recent address at the Stockholm Academy of Sciences as the recipient of one of the Nobel prizes (*Journal of the American Medical Association*), Behring announced the success of his efforts to immunize cattle against tuberculosis. His method is similar to Pasteur's immunization of sheep against anthrax—that is, the injection of attenuated tubercle bacilli from man. The next step is to determine the minimal effective amount and reduce the expenses of this protective measure. He stated that he intends to devote the Nobel prize to this end. He announced that he considers himself justified in asserting even now that the immunization of cattle against tuberculosis is an established fact.

The little mountain town of Arbois was the home of Pasteur's youth, and he always, according to the *Journal of the American Medical Association,* sought it on his vacations. The town recently unveiled a fine statue of its illustrious son. Paris is also erecting a statue to Pasteur to be surrounded by six groups, each sculptured out of a single block of marble, the pediment to consist of twenty-five such blocks. It was originally designed for the Medicis Place, but the proximity of the underground railway suggests the possibility that the foundation may not be strong enough for such a weight, and the statue will probably be erected in the Place de la Sorbonne. It is proposed to print Pasteur's life in pamphlet form and distribute it among the children of France as the most imperishable monument that could be offered him.

# NEW PUBLICATIONS.

## SEXUAL INVERSION.

There can be no doubt that the thoroughly scientific study of sex psychology is going to result in great good. Sexual inversion is the topic discussed in the second instalment of Havelock Ellis's Studies. If nothing further were to result than the achievement of a proper attitude toward the unfortunate people known as inverts much will be done. The work before us is interesting and curious, and a valuable contribution to a subject little discussed and too widely ignored.

Studies in the Psychology of Sex. By Havelock Ellis, L.S.A. (England); Fellow of the Medico-legal Society of New York and the Anthropological Society of Berlin; Honorary Fellow of the Chicago Academy of Medicine, etc.; General Editor of the Contemporary Science Series since 1899. The "Studies in the Psychology of Sex" will probably be completed in five volumes. Extra Cloth, $2.00 net, Delivered. Sold Only to Physicians, Lawyers, Advanced Teachers, and Scientists. Philadelphia, Pa.: The F. A. Davis Co.

## REFERENCE HANDBOOK OF MEDICAL SCIENCES.

The third volume of this splendid work brings the reader from "Chloralamid" to "Equicox." It is impossible to form any idea of either the quality or quantity of useful information contained within the covers. The articles are exhaustive in character, and all written by authorities on their respective subjects. The Reference Handbook is one which is a desirable possession for every one, and necessary possession for many.

Reference Handbook of Medical Sciences. By Various Writers. A New Edition, Completely Revised and Rewritten. Edited by Albert H. Buck, M.D., New York City. New York: William Wood & Co.

## PRESCRIPTION WRITING.

This manual is designed to give the student the necessary knowledge of Latin, and also the needful general rules governing the writing of prescriptions. It is admirably calculated to fulfil its purpose.

Prescription Writing. By M. L. Neff, M.D., Cedar Rapids, Ia. Pages v-152. Size, 8x5¾ inches. Extra Cloth, 75 cents net, Delivered. Philadelphia, Pa.: The F. A. Davis Co.

# THE PROGRESS OF MEDICAL SCIENCE.

## SURGERY.

### Local Anesthesia—Intraspinal Cocainization.

The *Lancet's* (Dec. 28, 1901) "Annus Medicus 1901" sums up the question as follows:

The remarkable paper of Bier, in which he detailed the effects of injecting weak solutions of cocaine into the spinal canal by means of a syringe introduced between the fourth and fifth lumbar vertebræ, was followed by a long series of reports of operations performed under "spinal cocainization." Tuffier, whose work in this direction has called forth much comment, has pursued this plan with enthusiasm if not with unqualified success. In the columns of the *Lancet* the technique of the procedure was fully set forth, and due credit was rendered to Corning, the American physician who was the first to suggest it. But as the method has become more seriously studied its dangers have forced themselves more prominently into notice. Independently of the obvious and terrible perils of intraspinal hemorrhage and sepsis, which the advocates of spinal cocainization assert can be completely obviated by care, there have already been reported severe after-effects, such as vertigo, prolonged paraplegia, paralysis of the sphincters, intolerable sickness, headache, rise of temperature, and collapse, which appear to be not only grave but persistent in character. Reclus, a warm advocate of local anesthesia, sounded a warning at a meeting of the Academy of Medicine of Paris in March about intraspinal cocainization; he detailed some alarming experiences, and referred to deaths reported by Humbert, Dumont, Jonnesco, and King. Dumont's paper should be read in this connection. Engelmann, of Bonn, found that eucaine not only produced the same unpleasant sequelæ as cocaine, but failed to induce analgesia; but trials with tropacocaine have in the hands of Swann proved more promising. Meyer has also used tropacocaine and speaks well of it. Goilav has warned against the method in old men with senile obliterating arteritis, having met with one death and one very nearly fatal experience. A considerable number of papers have appeared in continental journals about this subject, but as they do not throw further light upon the technique or question of safety, they need no special mention. An experience of Herman Mynter is, however, worthy of note. Having produced analgesia by intraspinal injection he performed an extensive operation for hernia, and

violent explosive vomiting commenced which caused the intestines to protrude. He speaks of "evisceration," and as the patient watched the proceeding Mynter justly regarded the scene as a terrible one.

Richardson, an American physician, reports having visited Tuffier's clinic. He came away deeply impressed by the skill of the surgeon and the peril of the method. He speaks of the patients being more dead than alive. Hare, of Philadelphia, says: "I might say of my own observations of intraspinal injection as an anesthetic that it will soon be regarded as a medical curiosity." This adverse criticism is called forth by the dangers which he believes to exist in the method.

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### Gonorrheal Exanthema in Infants.

Paulsen (*British Medical Journal,* Dec. 28, 1901) describes an eruption due to the gonococcus which he has observed, but of which he finds no account in literature of gonorrhea. Case 1: A male infant developed ophthalmoblennorrhea on the second day of life. On the ninth day the joints became swollen; the left knee-joint suppurated, and had to be opened. A few sparse vesicles appeared on the face, and many papules and vesicles appeared on the legs. The contents of the vesicles was fluid, with gonococci. Case 2: A male infant, ten days old, left postauricular gland enlarged and fluctuating; on incision pus was evacuated. A fine papular and vesicular rash all over the body. Slight ophthalmia. Cases 3 and 4: Papular and vesicular rash all over the body; slight ophthalmia; gonococci in vesicular contents. In all four cases the mothers admitted to a vaginal discharge at the time of parturition. Case 5: Vesicles on the head; later all over the body; contents serous and seropurulent. Case 6: Vesicles on face; clinical ophthalmia; gonococci in conjunctival secretion. Case 7: Sparse vesicular eruption on head and buttock; gonococci in conjunctival secretion. In Cases 5, 6, and 7 there was a "slight discharge" from the mother. In Cases 8, 9, and 10 the mothers denied the existence of a discharge. Case 8: Profuse papular and vesicular eruption all over the body. Case 9: Moderately sized vesicular eruption on the head; gonorrheal abscess in mouth. Case 10: Sparse vesicular eruption on head and face; gonococci in conjunctival secretion. Case 11: No discharge in the mother; vesicular eruption on face and buttocks; gonococci in conjunctival secretion. Case 12: The same as Case 11. The diagnosis

was made by the discovery of the gonococcus in the vesicular contents.

The author concludes his remarks by the following summary: (1) Gonorrheal skin lesions are much more common in infants than in connection with genital gonorrhea of adults. (2) They are caused by the gonococcus. (3) They are produced by secondary infection, from ophthalmia, or as a primary infection of the skin. (4) In severe cases boils and suppuration of glands may appear. (5) The lesions do not appear to produce any danger to the life of the infants. (6) Further observations of the appearances and prognosis of the lesions are desirable.

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## Surgical Hints.

The following timely surgical hints are from the January issue of the *International Journal of Surgery:*

In cold weather, when making use of chloride of ethyl for local anesthesia, it is well to warm the part beforehand. This will secure better evaporation and more complete anesthesia. It also prevents waste, as a much smaller amount of the chloride of ethyl will produce the required degree of anesthesia.

Never use sutures larger than are necessary to properly maintain approximation, or ligatures larger than will suffice to hold safely the vessels or pedicles they are to constrict. Even when absorbable they are foreign bodies.

If there is no evidence that a bullet has perforated important organs, such as the hollow viscera, or that it is causing hemorrhage, or that it is producing dangerous pressure, no attempt at extraction should be made. The wound is to be treated antiseptically. If sepsis should occur, the general rules governing the treatment of septic foci must be applied.

In a wound occurring in some place where no aseptic dressings can be procured, it is better to leave it exposed to the external air than to cover it with probably infected substances. A protective crust or scab will thus rapidly be formed.

Whenever tendons are sutured it is necessary to maintain the limb in such a position that the muscles whose tendons have been rejoined shall be as perfectly relaxed as possible. In suturing nerves the parts should be kept absolutely at rest for a period of at least three weeks.

A surgeon who keeps on breaking small ligatures when tying minor blood-vessels gives evidence of the fact that he is using an altogether unnecessary amount of force, at least ninety-nine times out of one hundred.

### Diagnosis of Tuberculous Peritonitis.

From his observations on fifty-four patients Kissel (*Archiv f. Klin. Chir.*, November, 1901) says that tuberculous peritonitis in children is more frequent than is generally thought. It may be taken for granted that nearly all cases of spontaneous ascites are nothing else than tuberculous peritonitis. The exudation in tuberculous peritonitis is not unfrequently absorbed under general tonic treatment, so that the health of the children affected is completely reëstablished. In most cases the disease comes on insidiously. The relatives first remark that the child is evidently, and without any cause, becoming pale and thinner. Diagnosis is much facilitated by the presence of simultaneous pleurisy. Thickening of the peritoneum (ascertained by feeling the peritoneum in a fold) may be considered the most important sign of the disease. In tuberculous exudative peritonitis the fluid obtained from the peritoneal cavity is rich in albumen and of high specific gravity. One frequently finds, even when the objective symptoms are insignificant, and the subjective ones good, the whole peritoneum covered by a thick layer of tolerably recent tuberculous deposit. The diagnosis is most difficult in cases of chronic ascites with tuberculous pericarditis, but this affection is rarely met with. Tuberculous peritonitis begins in a rather violent manner only in rare cases.

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### The Permeability of Granulation Tissue by Pathogenic Organisms.

Jurgelunas (*Ziegler's Beiträge*, No. 1, 1901) has from his experiments drawn the following conclusions:

(1) Aseptic uninjured granulation tissue acts as a mechanical obstruction to the entrance of bacteria. (2) The cells of granulation tissue are bactericidal and phagocytic, and form a second line of defense. (3) Bacteria which pass through the granulation tissue of susceptible animals undergo very little change in their passage, but in immune animals these changes are marked; in animals immunized anthrax bacilli die in the granulation tissue, and after six days have altogether disappeared. (4) Animals which survive the passage of, for example, anthrax bacilli through granulating wounds do not thereby acquire immunity; the character of the wound dressing has no particular influence on the course of infection, but affects the healing process in the wounds; the porous dressing is preferable to the sealed. (5) The secretion of the granulations of immune animals has a bactericidal action of varying strength on the bacteria against which the animal is immunized.

## The Origin and Prevention of Oxalate Renal Calculi.

At a recent meeting of the Berlin Medical Society, G. Klemper (*Medical Press,* Dec. 25, 1901) gave an address on this subject. It is a custom, he said, when an individual voids a stone with acid urine to order something suitable for the treatment of uric acid calculi. If the stone in question be an oxalate, such treatment would be injurious and would certainly lead to recurrence. If the stone be really an oxalate the situation would be difficult, as up to the present no means has been determined by which a return of the symptoms can be prevented. The speaker, in association with Tripstein, has carried out a series of investigations in the Institute for Medical Diagnosis, and has ascertained that oxalates are not so infrequent as has been supposed. In sixteen cases oxalates were met with five times. In Israel's practice fifty-four per cent of the calculi were formed principally or in part of oxalates.

The question of prevention is covered by that of the source of oxalate of lime. According to general opinion this is of alimentary origin; spinach especially contains a large quantity of it, about 110 milligrammes in 100 grammes. The gastric juice dissolves the greater part, and 25 to 30 milligrammes passes into the urine. As to what becomes of the remaining 75 milligrammes, the author is of opinion that it is not destroyed in the tissues. The greater part of the oxalate of lime is destroyed in the intestines, and traces only are found in the stools. He has injected minute doses of oxalate of lime into mice and dogs, and found that all passed off smoothly in both animals. It is not therefore destroyed in the tissue changes, but what appears in the urine is absorbed from the stomach. Although oxalates appearing in urine are of an elementary nature, the avoidance of vegetables and fruit in the diet cannot insure urine free from oxalates. The reason for this was not understood until Sommel, of Munich, showed that when gelatin was given 4 to 15 milligrammes of oxalates were found. This discovery drew the speaker's attention to glycocol, which is known to be a solvent for oxalates. Now creatin is a glycocol derivative that plays an important part in the system. It forms both urea and oxalic acid. The glycolic acid present with bile is also important, as when this is absorbed glycocol becomes free, and the formation of oxalates is possible. In the icterus of resorption also oxalic acid becomes free.

These facts tend to an explanation of the origin of oxalates.

The aim now should be not to avoid substances containing oxalates, but to facilitate its solution in the urine. The double phosphate of soda, the author thinks, is not sufficient for the purpose, but there is another material that acts in the right direction—magnesia. It has been shown that oxalate of lime is soluble in salts of magnesia when heated. A milk diet is unsuitable, as it is poor in magnesia and rich in lime. If food is divided according to its richness or poverty in lime into two groups, vegetables would belong to the first, and to the latter fish and the different kinds of meat. Milk and eggs are to be carefully avoided when there is a tendency to oxalates. In cases with such tendency he recommends the avoidance of milk, eggs, and vegetables, and in their place recommends flesh, vegetables, and farinaceous foods, and in the way of medicine two grains of bitter salts daily.

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### Glycosuria and Insanity.

At the recent meeting of the Royal Academy of Medicine, Ireland, Dr. Dawson (*Medical Press*, Dec. 25, 1901) read a paper under this title. He said that cases of glycosuria associated with insanity are of two classes—those in which the insanity is secondary, and those in which the glycosuria is secondary, the first being rare. He has had one case of the first class at Farnham House, that of a woman who has suffered for many years from polyuria and recurrent melancholia, with general debility, the melancholia being of the type described as characteristic of diabetic insanity. She had been admitted for a severe attack, and sugar being present in the urine, she was put on a diabetic diet. The sugar and the mental symptoms disappeared, and she was discharged recovered in about two months. The diet has since been persisted in, and she has remained unusually well for about a year.

Two other cases were then briefly described which probably belonged to the second class. In one depression dated from an attack of influenza; in the other the melancholia was a second attack, the first following an injury to the head. Both had glycosuria, for which they were treated, and recovered, so far as the acute attack was concerned. In four more cases glycosuria had been present on a few occasions only, and had not been treated, the forms of mental disease being respectively paranoia with depressing delusions, subacute mania with a tendency to stupor, acute mania with stupor and unpleasant delusions, and acute confusion.

In all but one of the seven cases a prominent characteristic was mental discomfort, and when it could be tried, there was high blood-pressure during the acute stage. Five had made good recoveries, and one was in a fair way to do so, the paranoia being, of course, incurable.

In true diabetic insanity the mental symptoms are due to cerebral malnutrition. The glycosuria when merely symptomatic is probably purely alimentary, and dependent on a failure of sugar assimilation which has been observed to be especially frequent in melancholia. Glycosuria does not appear to be necessarily of bad prognostic import in insanity.

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### Typhoid Cholecystitis.

J. H. Pratt discusses the relations of the typhoid bacillus to cholecystitis and gall-stone formation (*American Journal of the Medical Sciences,* November, 1901). He emphasizes the great frequency with which the typhoid bacillus is found in the gall-bladder, both in cases in which examination of the blood showed it to be present or absent. The presence of the typhoid bacillus in the gall-bladder does not necessitate any cholecystic change, so some factor other than the presence of the bacillus must be necessary to produce cholecystitis. The organism may remain in the gall-bladder long after it has disappeared from other organs, and cases of its having been found after some years are referred to by the writer. It is possible that invasion occurs in two ways: one by an ascending infection by the biliary passages from the duodenum; secondly, by hematogenous infection. In typhoid the evidence seems to point to the latter mode, as the bacillus is nearly always found in pure culture. Were infection to take place from the biliary passages, we should expect it to be mixed, especially with the bacillus coli or streptococci. The previous infection of the gall-bladder by typhoid bacillus might possibly give rise to the formation of gall-stones. The writer quotes Dufourt as having observed nineteen cases of gall-stones, in which the first symptoms appeared after typhoid fever; in twelve instances within so short a time as six months. Other writers, such as Cushing and Richardson, have also observed a connection between typhoid fever and gall-stones, the latter having noticed large clumps of bacilli suggesting a gigantic Widal reaction in the gall-badder. These clumps of agglutinated bacteria might quite well serve as the starting-point of biliary calculi. The same writer has even produced a calculus seven millimeters in diameter by injecting a culture of agglutinated bacilli into the gall-bladder of a rabbit.

### The Influence of the Mineral Salts Contained in Drinking-water upon the Constitution of the Blood.

Dunschmann (*Zeitschrift f. Klin. Medicin*, 1901, vol. xliv) discusses this subject at length. From the work done by him the following changes in the blood were noted:

1. The water content of the blood gradually increased, in one case from 82.65 to 84.09 per cent, in the other case from 82.62 to 85.41 per cent.

2. The total quantity of dried substances was diminished, from 17.35 to 15.91 per cent in one case, from 17.38 to 14.59 per cent in the other case.

3. The quantity of proteids in the blood is likewise diminished, from 2.55 to 2.28 per cent in one case, from 2.55 to 2.06 per cent in the other. A consideration of these last two findings shows that the diminution in soluble proteid is proportionately greater than that of the total dried substance.

4. The specific gravity of the blood is diminished (from 1.054 to 1.046), while at the same time the arterial pressure is increased.

5. The serum exhibits the same changes as the blood as a whole; it is richer in water, poorer in dried substances and in nitrogenous material, the latter again relatively more than the former.

6. We must therefore conclude that the substances, the proportionate amount of which in the whole blood is increased at the cost of the substances that contain nitrogen, are those that are more powerfully osmotic than the proteid bodies. These are the salt constituents of the mineral water.

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### The Blood at High Altitudes.

Most authors who have studied the question of the condition of the blood during residence at high altitudes have found an increase of the red blood cells, as well as an increased amount of hemoglobin, as a result of such residence. Jaquet (*Bristol Medico-Chirurgical Journal*, December, 1901), whose former researches had led him to the conclusion that the volume of the blood and quantity of hemoglobin was increased, has lately endeavored to distinguish which of the chief factors present at mountain resorts—temperature, humidity, and air-pressure—is responsible for the blood changes. The experiment was carried out on growing puppies of the same age, and the total amount of hemoglobin and blood was estimated by washing out the body (blood-vessels) at the end of the experiment.

1. Temperature: No difference was found in the blood of animals kept at 2° to 5° C. and those kept at 13° to 16° C. under the same air-pressure and humidity for a period of six weeks.

2. Air-pressure: By means of special arrangements three puppies were kept for four weeks under a pressure of 640 mm. Hg; a lowering of pressure of 100 mm. Hg, corresponding to the height of Davos.

At the conclusion of the experiment a considerable increase was found both in the number of blood-corpuscles (more than 1.5 millions) and also in the percentage of hemoglobin (248 per cent). On the effect of increased or decreased humidity Jaquet has not experimented, but from a critical study of the literature he concludes that the influence on blood-formation cannot be pronounced.

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### The Condition of the Blood in Addison's Disease.

Hamel (*Deutsches Arch. f. Klin. Medicin,* 1901, vol. lxxxi) gives the results of his own determinations as follows:

1. Anemia is an essential and inseparable symptom of Addison's disease.

2. The poisons heaped up in the blood in Addison's disease, due to the pathological disturbances of function in the adrenal glands, may not harm the blood morphologically—*i.e.,* must not be regarded as peculiar blood poisons.

3. In cases of uncomplicated tuberculosis of the adrenals the single blood-drops may present a normal picture. The anemia which is undoubtedly present must be regarded as an oligemia, and is caused only by the tuberculous toxins eliminated in the caseous adrenal glands.

4. In cases of uncomplicated carcinoma of the adrenal gland a morphological degeneration of the blood is to be expected in a greater or less extent.

5. In the complications of Addison's disease the blood is correspondingly changed.

6. Anemia, with morphologically intact blood, in Addison's disease points to adrenal tuberculosis; anemia, with morphologically changed blood, points to adrenal carcinosis or to complications of the disease.

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### Formation of Red Hemoglobin and of Corpuscles of the Blood.

Aporti (*Bristol Medico-Chirurgical Journal,* December, 1901) found that by feeding healthy dogs on an iron-free diet, and

by bleeding them freely, a proportionate fall in the amount of hemoglobin and of red blood-corpuscles took place. After a certain number of bleedings the hemoglobin remained at this lower level or still further decreased, whilst the red corpuscles gradually increased again. Injections of arsenic into these animals caused an appreciable increase in the number of the red corpuscles, whilst the amount of hemoglobin remained unaltered. On the other hand, injections of iron did not affect the number of red corpuscles, but caused a rapid increase in the quantity of hemoglobin. According to Aporti, there is therefore a certain amount of independence in the formation of red corpuscles and of hemoglobin, and some substances, especially arsenic, increase the number of red cells; whilst others, iron *par excellence,* almost exclusively affect the formation of hemoglobin.

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### The Nature and Histopathology of the Epipharyngeal Tonsil.

N. H. Pierce (*Journal of the American Medical Association,* Jan. 4, 1902) says the tissue composing adenoids has a wide distribution throughout the body. The epipharyngeal tonsil is an organ normally present in all individuals. The function of the epipharyngeal tonsil is at present unknown. Whether it is simply an evolutionary vestige or has to do with metabolic or other processes is equally uncertain. Its wide distribution among the various members of the animal kingdom, its embryological connections, and its identity with lymphoid structures elsewhere in the body, would suggest that the epipharygeal tonsil has a function. The histology and the experiments of Massini and Genta would tend to place it in the class of glands having an internal secretion. The relation of tuberculosis, syphilis, or scrofulosis to adenoids is not etiologic. Adenoids may be affected with tuberculosis, etc., but only as any other organ may be similarly affected.

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### Blastomycetic Dermatitis.

Hektoen (*Journal of Experimental Medicine,* vol. iii, p. 26) records a case of dermatitis caused by a blastomyces. The patient was a man aged fifty-six, whose affection dated from four years previously, when a red spot appeared on his leg and gradually extended; this was removed by operation. A year before he was seen by Hektoen a warty growth appeared on the hand. Sections

of the affected part showed blastomycetes; these were also grown in cultures, forming mycelia. The described organisms differ in many points from those described by Gilchrist and Stokes (Johns Hopkins Hospital Reports, vol. i), but the histological changes caused by them were similar. Rats and mice subcutaneously inoculated died in five days, and the organisms were regained from the point of inoculation, but not from the internal organs; a dog experimentally used proved refractory to the organism.

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## THERAPEUTICS.

### Antidiphtheritic Serum.

As a result of the unusual number of cases of diphtheria in Paris (*Chemist and Druggist*, May 25, 1901, p. 823) the Minister of the Interior has addressed a circular to all the doctors in France giving in precise terms the treatment of the malady. At the Pasteur Institute here the increase is attributed to the delay which frequently occurs in administering the antidiphtheritic serum. The following are the passages of the minister's circular which are of interest to pharmacists, as the serum is sold by them in France:

"The mortality in cases of diphtheria has been reduced of recent years in considerable proportions by the use of antidiphtheritic serum. I notice, however, notable differences in the results obtained. Statistics show that in certain districts inoculated patients are all cured; elsewhere that the number of deaths are more than half of the cases treated. This difference can only be the result of the way in which the treatment is applied. It frequently happens that when doctors have antidiphtheritic serum which is a few months or even a few weeks old, they will not use it, and prefer to wait for a fresh supply. In this way precious time is lost, and often the life of the patient is endangered by the delay. Medical men certainly may get new serum if they judge it necessary, but they should immediately use that they have in hand. Repeated experiments have shown that the serum loses none of its curative qualities by being kept even for a year. In all serum having been prepared a certain length of time a slight sediment is found, which settles at the bottom of the bottle, leaving the liquid perfectly clear. This deposit does not indicate any alteration of the serum, which still possesses all its therapeutic qualities. When the injection of serum is made the very day the false membrane

appears the mortality is practically *nil,* and does not exceed two per cent. When the injection is made the second day the proportion of mortality increases to six per cent. It mounts suddenly to thirty per cent when the injection is made the third day, and fifty per cent when made the fourth day or later."

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### Aristol Cure of Hay-fever.

E. Fink (*British Medical Journal,* Dec. 28, 1901) says that while it is the generally accepted belief that true hay-fever is incurable, he does not believe it to be so. He discusses the pathology of the affection after describing a typical case. Bosworth attempted to explain two classes of hydrorrhea under the names of coryza nervosa and coryza vaso-motoria, but Fink shows that the latter cannot exist. He quotes many authors and uses many arguments to show that the primary lesion of hay-fever cannot be in the nasal mucosa. Helmholz, on the other hand, ascribed the origin of the secretion to vibrios, which affected the mucosa of the facial cavities near the nose. Fink blew an insoluble powder into the antrum of Highmore, and discovered it in the watery nasal secretion later on. Although he does not accept or refuse the vibrio theory, he claims that the origin of the affection is in the facial cavities. He therefore sought to treat hay-fever by insufflation of aristol powder in the antrum of Highmore, and claims that one can always obtain a favorable result. Many of his cases were cured completely after applying the powder to both antra. He mentions, however, that when neurasthenic conditions are also present in the etiology of any given case, this must be dealt with separately in the usual way.

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### The Home Treatment of Pulmonary Tuberculosis.

A. McPhedran (*Lancet,* December, 1901) says that probably less than five per cent of the persons affected with tuberculosis are able to seek the advantages of the climates most suitable for their condition. Patients suffering with tuberculosis should be given the best of care and attention at home. The writer says there are three conclusions that should be specially emphasized: First, that the disease, in the early stages, if properly treated, is very curable, the great mortality from it being due to its great prevalence. Secondly, that our climate is not

detrimental to tuberculous patients, especially in the early stages, as it is fairly dry, and its moderate coldness is no barrier to their being out-of-doors. In fact, they should do better in the stimulating cold of winter than in the depressing heat of summer provided there is as free an out-of-door life. Thirdly, in order not only to lessen the prevalence of tuberculosis and in time "stamp it out," but to successfully treat those affected, it is necessary to largely increase the sanatorium accommodation, to make proper provision in all general hospitals for the care of cases that cannot be otherwise cared for; and to so improve the homes of the people as to render them suitable for the care of the well no less than the treatment of the sick.

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### Treatment of Acute Dysentery by Oxygenated Water.

The important rôle of antiseptic enemata in the treatment of dysentery is well known. Among the agents usually employed may be mentioned nitrate of silver, recommended by Troussear, permanganate of potassium, ichthyol, methylene blue, etc. According to Dr. Rocanz (*Medical Press,* Dec. 18, 1901), of the Children's Hospital at Bordeaux, oxygen water constitutes a valuable remedy in the dysentery troubles of children. He had an opportunity of trying the agent in an epidemic of dysentery in a dozen children of from two to twelve years old. He employed the oxygenated water at twelve volumes, and diluted with five times its volume of warm boiled water (oxygenated water, ℥ij; sterilized water, ℥x). The quantity of the liquid injected varied with the age of the patient, and also with the tolerance of the colon. In all the cases treated the state of the patients improved rapidly.

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### The Treatment of Diphtheria.

Under "The Annus Medicus 1901" the *Lancet* has the following to say in regard to the treatment of this disease:

"The statistics published from time to time in this and other countries continue to bear strong witness to the value of the antitoxin treatment. The reports go to show that the antitoxin is harmless, and should therefore be used in all cases of doubtful disease of the throat when the affection is severe without waiting for bacteriological confirmation. It has been

clearly proved that the earlier the injection is given the better is the result. In those cases in which the antitoxin is given on the first or the second day of the illness the mortality is far below that which occurs when its administration is postponed until a later period."

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## Effects of Suprarenal Extract.

Prof. J. N. Langley, of Cambridge, at the recent meeting of the International Congress of Physiologists (*British Medical Journal,* Dec. 21, 1901), said that he had found in addition to the effect described by others that suprarenal extract caused:

1. Secretion of the salivary and lacrimal glands and of various mucous membranes. The salivary secretion was at first accompanied by constriction of the gland blood-vessels, and later by slight dilatation. Atropine and suprarenal extract had therefore on this secretion a mutually antagonistic action much like atropine and pilocarpine.

2. An increase followed by a decrease in bile secretion.

3. Inhibition of the gall-bladder.

4. Inhibition of the cardiac sphincter of the stomach (rabbit) and of the walls of the stomach (rabbit and cat).

5. Slow contraction of the pupil in the dog.

6. Contraction and pallor of the uterus, vas deferens, and seminal vesicles.

7. Dilatation with pallor at the end of the rectum and internal sphincter in the rabbit; slight contraction and pallor in the cat and dog.

In nearly all cases suprarenal extract produced a similar effect upon a tissue to that caused by excitation of its sympathetic nerve, and in no case did it produce an effect of the same kind as the cranial autonomic or sacral autonomic nerve to the given tissue, with possible exception of constriction of the dog's pupil. Notwithstanding, action appeared to be a direct one upon the tissue and not upon the sympathetic nerve endings, for after degeneration of the postganglionic fibers of the cervical sympathetic in the cat, the extract caused its usual effects on the eye, the submaxillary gland, and the hairs of the face. The action of the suprarenal extract on the secretion of saliva and on the cardiac sphincter was demonstrated.

## DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
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### Idiopathic Multiple Sarcoma of the Skin.

In the *Journal of Cutaneous and Genito-Urinary Diseases* for January, 1902, Henry H. Koehler, M.D., Louisville, Ky., reports the following case:

Patient a Hebrew, born in Russia fifty years ago; constitution good, and good general health; fairly intelligent; denies ever having had a specific infection; been in this country about eight years uninterruptedly; and the disease which he is now suffering from developed in 1899. The attack came on immediately after a severe exposure. The patient made a trip to Cincinnati on a boat, sleeping in a very warm room. In Cincinnati he slept in a very cold room, and on coming home shortly afterward he noticed the tumors for the first time. The eruption commenced first on the extremities; later on it extended to the trunk and face. At times several nodules had ulcerated, although the tendency to this seems to be very slight. He complains of muscular pains very much like those of muscular rheumatism. The nodules themselves are painless and devoid of any subjective sensation. The extirpation of one caused profuse bleeding, but little pain. In the fall of 1900 he had an acute febrile attack, after which he had attacks of dizziness, with loss of appetite and pains in knees and legs. In May, 1901, he again had similar pains in lower legs and knees. The patient is a pronounced blond, and has hitherto been entirely free from any eruption of any kind; he perspires very freely, and claims that he feels himself weakened thereby. His children are healthy.

Present state: Health fairly good. No marked deterioration from former standard. At times has fever. The eruption is quite generally distributed and symmetrical. The color of the tumors is a reddish-brown, somewhat like that of a keloid. A slight purplish tinge is noticed in those on the lower extremities. They are vascular, firm to the touch, elastic, with no pain on pressure. The extensor surfaces are more involved than the flexor surfaces. On the forehead the nodules have fused together and give him a leonine expression. The eyelids are much infiltrated. On the top of the larger tumors there is a distinct condition of telangiectasis. No ulceration anywhere at present. Palms and soles are spared. No lymphatic enlarge-

ment anywhere. He exhibits no clinical symptoms that point to leukemia or pseudoleukemia. Since the advent of warm weather slight hemorrhages have taken place in several of the tumors.

He is at present receiving injections of sodium arseniate according to the method of Kaposi. In giving them a general hardness of the skin is noticed, as shown by marked resistance to the entrance of the hypodermic needle. This treatment has been used for about a month (0.02 gramme every other day) without appreciable effect on the tumors.

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A Rare Papular Disease Affecting the Axillary Region.

In the *Journal of Cutaneous and Genito-Urinary Diseases* for January, 1902, Dr. Geo. H. Fox, New York City, reports the following case:

Patient twenty-eight years old, unmarried, and born in Russia. The eruption was mainly confined to the axillary region, had existed for a year or more, and caused no little distress. The itching was intense and of a paroxysmal character, robbing her of sleep and impairing her general health in a marked degree. The patient was thin and of a highly neurotic temperament, and it was not easy to determine to what extent the impaired health was a cause or a result of the distressing dermatosis.

The eruption was of a papular character, and the lesions were numerous, small, firm, smooth, and rounded. The skin was deeply infiltrated and slightly fissured. The aggregated papules were of normal color or but slightly reddened, although the scratching produced at times a considerable amount of congestion and excoriation.

Over the pubic region were a number of small rounded papules, evidently of the same nature as those in the axillæ, but not accompanied by such intense pruritus. Upon other portions of the body no sign of eczema or other disease was noticeable.

Dr. John A. Fordyce summarizes the histological changes as follows: (1) A hyperkeratosis, involving chiefly the sweat duct orifices, their intraepidermic portions, and the orifices of the hair follicles. (2) Consecutive hypertrophy of the stratum spinosum (acanthosis) surrounding the altered sweat ducts and hair follicles. (3) Mechanical dilatation of the coil glands which result in changes in their epithelial lining. (4) Inflammatory changes of a more or less chronic character in the derma.

# THE MEDICAL AGE

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## ORIGINAL CONTRIBUTIONS.

### THE INFLUENCE OF INJURIES UPON THE PRODUCTION OF NERVOUS DISEASES.

BY T. W. NUZUM, M.D., BRODHEAD, WISCONSIN.

This subject is a comparatively new one, and since it has become generally conceded that great corporations and public carriers are responsible, to a large extent, for the safety of their patrons and employees, and since so much litigation has grown out of it, and medical men, especially neurologists, are so frequently called in as expert witnesses, upon whose testimony, more than any other one thing, the jury must base their conclusions, this subject has become a very important one, and one which is very widely discussed by the daily papers and by the public generally. And I think expert witnesses have done more to injure the good name of the profession in the eyes of the public, by their radical differences of opinion, than all other things combined.

These radically different conclusions may be accounted for by the fact that each studies the case from an entirely different point of view, one for the company and the other for the complainant, and it is remarkable how that fact will warp the judgment of many men.

Then it must be admitted by all candid and well-informed men that some of our so-called "professional expert witnesses" testify on the side from which the fee comes, and try to win the case for their respective sides with little regard for truth or justice.

Perhaps the most serious obstacle in the way of a remedy for this evil is the fact that the law makes no distinction between the man who is well versed upon a particular subject, and the charlatan, so that testimony of each goes to the jury with equal weight.

Then the symptoms of these cases are usually subjective, and there is little or nothing tangible upon which to base an opinion. The incentive to magnify or create symptoms is very great, and

must always be taken into account, since upon this alone must depend the amount of damages to be recovered.

Patients do not always willingly magnify their ailments; but we all possess the "elements of hysteria," and I venture to say that every physician has patients whom he has to tell when they are well, and whom he could keep in bed in a state of invalidism by sympathizing with them and telling them they were ill. These patients are injured, the extent of which they little know; they are surrounded by solicitous and sympathizing friends who note every complaint and magnify every symptom. They have read much of "spinal concussion" and "spinal injury," and have a very great dread of being paralyzed, so that one of a highly neurotic temperament will readily and honestly magnify a simple neuritis or a severe lumbago into what seems to him a severe and incurable gross lesion of the spinal cord.

Osler defines "railway brain" and "railway spine" as a morbid condition following shock, which presents the symptoms of neurasthenia or hysteria, or both. And since the great majority of cases of nervous diseases following injury result from accidents upon railroads and street railways, these diseases have become commonly known by these names, although they may be produced by other forms of injury or fright, as will be shown by cases reported further on in this paper.

The subject is a very large one, and I shall only touch very briefly on many very important topics lest my paper will be too long. I also wish to report some experiments which I have made relative to this subject.

We will follow Osler's division of the subject into three varieties:

1. Simple neurasthenia.
2. Marked hysterical manifestations.
3. Symptoms simulating or indicating organic disease.

The first variety is perhaps the more common, and may be produced by profound mental impressions where no physical injury or concussion has been received. It may come on immediately, or some days or weeks may elapse after the injury before the symptoms are manifest.

Osler reports the case of an "engineer who ran over a child and subsequently developed very marked symptoms of neurasthenia which persisted for a great length of time." I recall a similar case which came under my observation. Mr. M——, a very intelligent and athletic man, thirty-three years of age, was principal of a high school in St. Louis when the great cyclone of 1898 completely demolished the building in which he was teaching, killing several of the pupils, he receiving no bodily in-

jury. He helped to rescue the injured, not realizing that he was suffering from the ordeal; but in a few hours he developed a most aggravated form of eczema with very marked neurasthenic symptoms. Under rest and treatment he gradually improved, and came north to spend his vacation and recuperate. During the latter part of the summer a bad storm passed over the village, which blew over some buildings and did much damage to trees, chimneys, etc. On the following morning he came to my office with his eczema in full bloom and his nervous symptoms as bad as before. He assured me that he had never suffered from any such troubles previous to the time first mentioned. Here plainly is a case of physical lesion produced by mental impression. It may also be produced by some severe mental strain combined with bodily fatigue and exposure, as in a case reported by Dr. Page of a naval officer who was wrecked in a storm and exposed in the rigging for twenty-four hours, and who subsequently developed a severe neurosis from which he never recovered.

I am well acquainted with a physician who, owing to the illness of his competitor during a very sickly winter, had his rest broken continually for a great length of time, and having many critical cases on hand became nervous, lost appetite and flesh, and finally was unable to sleep when undisturbed. After a time he developed a most violent case of eczema of the face and hands, accompanied by severe digestive disturbances and constipation. He took a vacation for three weeks, when the eczema disappeared and other symptoms improved; but upon returning home and resuming work the trouble promptly returned after the first country trip, and this condition did not improve until he took a complete rest from business. For five years any difficult surgical operation or severe mental strain would bring on eczema in from one to twenty-four hours, the interval lengthening as the nerve force was more nearly restored. Dr. Osler says: "A slight blow, a fall from a carriage or on the stairs may suffice."

The symptoms of this group are a tired feeling, headache, inability to concentrate the attention on any subject or business. The patient is nervous, irritable, and easily annoyed. The entire mental attitude is changed, and he dwells constantly on his condition, is low-spirited, despondent, and melancholy, frequently complains of numbness, tingling and tremor, and suffers from pain and weakness in the back. Digestion is impaired, there is loss of appetite, maybe nausea and vomiting, the latter of which is sometimes persistent, bowels constipated, tongue furred, loss of flesh and general tone. Reflexes are apt to be increased, pupils dilated and slowly changeable, and cardiovascular symptoms may be present to a marked degree, such as flushings, pallor, palpita-

tions of the heart, and so forth. Disorders of secretion, such as profuse sweating, are present, and polyuria of a very pronounced type and persistent retention of urine, which should always receive attention lest the bladder be unduly distended and permanent injury result.

Dr. Page reports the case of a woman who was very greatly frightened lest her child should be injured, and who was herself knocked down on the platform of a railway station. She suffered from polyuria which lasted several weeks, with one exception of twenty-four hours, when it was replaced by a profuse flow of milk from the breasts. She was not at that time suckling.

Menorrhagia is a very common symptom, coming on immediately after the accident and entirely independent of the normal menstrual epoch (Page).

Suppression of the menses may occur and persist until the patient recovers from the neurasthenic condition.

Profuse diarrhea is frequently observed to immediately follow an accident.

Photophobia, asthenopia, and loss of memory are quite usual symptoms. Pregnancy is rarely disturbed by a collision. The sexual desire is diminished or abolished temporarily

Dr. Page reports two cases of death from nervous shock from fright where no bodily injury was received. and they are so rare and interesting that I will briefly give them here.

*Case 1.*—A man of forty, of delicate constitution, was in a collision at night, which was a slight one, and he was the only passenger hurt. He was violently shaken, but there was no evidence of bodily injury. He was able to go home. On the following two days he was delirious, but he improved for a time, and his condition was not thought to be serious. He, however, did not make marked progress, and four weeks after the accident he grew weaker and more prostrate, and died on the thirty-seventh day after the accident. No organic disease whatever was found in any of the viscera after death.

*Case 2.*—The other case was that of a strong and healthy girl of nineteen, in good position in life, who was in a most serious collision. She received no bodily injury, but on the night following the collision she awoke screaming that the engine was rushing into the room. Her illness followed much the same course as that of the first case, and she died in about five weeks, no structural disease whatever being found after death. The brain and spinal cord were examined in both instances.

Nammock reports the case of a policeman who was very much frightened and shaken by a team of runaway horses. The man was not physically injured, and had of course no thought of mak-

ing any claim, and yet after two years his nervous condition would not permit him to return to duty.

Dr. Bailey says: "Similar cases are not of infrequent occurrence." He further says: "The duration of the disease is variable. It is essentially a chronic affection requiring considerable time for repair. The larger number of cases which are properly treated can return to work in a few weeks or months, although a longer time may be necessary before they feel themselves well again."

Traumatic hysteria is essentially the same as hysteria produced in any other way, with the fright element added. The control of the emotions is greatly lessened or entirely lost, and the patient creates or magnifies every trivial symptom. Headache, backache, and vertigo are complained of, and violent tremor of the entire body, during emotional excitement. Sensory disturbances, such as hemianesthesia, limitation of the field of vision, dyspnea, etc., are frequently complained of. Osler reports a case where the latter was the principal symptom in a man who was struck by an electric car, and whose respirations were 130 per minute.

Dr. Page thinks these patients are in a hypnotic state, and receive suggestions and act upon them in the same way. He cites the case of a man who ran to catch a moving train and got hold of the rear end of the last car, but was thrown on the track. He thought he was thrown from the front car and that three cars ran over him. This, too, would account for the fact that many patients are not aware of any injury at the time, but subsequently develop severe symptoms. He also claims that hysterical patients lack the mandate of the will, or the power to will which controls the functions of the extremities, and suggests that a chemical change may have taken place in the central neuron.

Dr. Bailey says: "That an injury, without being severe, may be followed by functional paralysis or contracture or convulsions has received abundant clinical verification. It is essential for purposes of justice, as well as for correctness of diagnosis, that it be generally recognized that very startling hysterical symptoms can be caused by accidents which have caused only slight physical commotion or bruising. That some morphological or chemical changes underlie the alteration in functions there is little room to doubt."

Mr. Thoburn says: "The general public has been educated to expect concussion of the spine with paralysis, and in the minds of the laity the very suggestion of a railway accident calls up the required idea. It is undoubtedly true that many of these troubles owe their existence to organically deranged nervous symptoms quite as much as to the accidents which are supposed to have produced them."

In the third variety, symptoms simulating or indicating organic disease, these may come early or late and may be due to suggestion: as, for instance, a man is severely shaken and suddenly jerked in a collision; the muscles and tendons of the spine are sprained and more or less injured, and after a time he feels himself unable to move without great pain in the back. The idea immediately suggests itself of "spinal concussion" or spinal-cord injury, and he simulates, so nearly as he can unconsciously, that which he most fears and dreads, viz., paralysis. His symptoms are essentially those of severe lumbago, and are produced in a similar way as when one lifts or slips and sprains the same set of muscles and tendons, and if the patient and friends are informed of the exact nature of the injury and the probable cause of the trouble, it greatly relieves the mental condition of the patient and conduces to a speedy recovery.

The injury may be in the cervical, dorsal, or lumbar regions, or in all three combined, which will make practically no difference with the final result.

Where there is a gross lesion, such as a compression of the cord from fracture or dislocation of the vertebræ, or hemorrhage, the symptoms are immediate and pronounced, and the lesions can usually be made out. Such a case is the following: A man forty years of age was riding on horseback down a hill during a thunderstorm. The horse took fright at a loud clap of thunder and jumped, throwing the rider from his head and back. His head was down-hill and in the wagon-rut, down which flowed a stream of water. The water was rapidly rising up the side of his face, and he was unable to use a muscle below the face muscles. He was perfectly conscious of his imminent peril, but powerless to help himself. Just at that moment his dog ran up and licked his master's face, and he caught hold of the dog's lip in his teeth. The dog pulled back and dragged his head out from the rut, where he lay until a passer-by took him home. I with my preceptor saw him some months later, still in the same pitiable and helpless condition. He lived for some years, suffered from bed-sores, retention of urine, and loss of power over the sphincters, but finally died without ever regaining the use of his extremities. No post-mortem was held, but there was no external evidence of fracture or dislocation of any of the vertebræ.

Osler says: "Great reliance can be placed upon optic atrophy and bladder symptoms, combined with tremor, paresis, and exaggerated reflexes, as indicative of organic changes. When death has followed spinal concussion in a few days, the anatomical changes have not been very definite and there may not be apparent lesion, but in some cases the brain or cord has shown punctiform hemorrhages."

Edes has reported four cases in which a gradual degeneration of the pyramidal tracts followed injury or concussion of the spine; but in all these cases there was marked tremor, and the spinal symptoms followed immediately upon the accident.

Bailey reports a case where the post-mortem showed punctate hemorrhages into the cord following a fatal injury, and sums up thus: "That injury can cause minute and multiple lesions in the spinal cord without fracture of the vertebræ has often been assumed, but as far as I know never before been demonstrated."

Bernhardt reports an instance of a man of thirty-three "who received a kick from a horse on the epigastrium, and subsequently developed the symptom-complex of neurasthenia and hysteria with attacks of vertigo and great psychical depression. He afterward had more marked mental symptoms and attacks of unconsciousness. He committed suicide, and the brain and cord showed a beginning multiple sclerosis in the white matter."

In a second case, a man of forty-two years received a shock in a railway accident in July, 1884. "He was rendered unconscious and had a slight injury in the buttock region. In a few weeks symptoms of traumatic neurosis developed, particularly great depression of spirits with headache and sensory disturbances of the feet and hands; tremor and great weakness was complained of when he attempted to work. There was no increase in the reflexes. The case was regarded as one of simulation, and a defect in subjective symptoms favored this view. Subsequently the judgment was reversed, but he did not improve. He died in January, 1889, with symptoms of cardiac dyspnea. Microscopically the brain and cord appeared normal. There was extreme arteriosclerosis, particularly of the brain and spinal cord. In the latter there were scattered areas of degeneration in the white substance and degeneration in the sympathetic ganglia."

The reason for the fright-neurosis being so much more severe in cases of railway accident than from a street injury or a fall may be accounted for by the ponderous weight of the engine and cars, and the knowledge of the severity of such injuries and the helplessness of the patient. It is a strange but well known fact that patients suffering from severe bodily injury, such as the loss of a limb or fracture of bones and the like, where shock is extreme, recover more quickly and are very much less apt to suffer from fright-neurosis than those who are not at all or but little injured. The reason for this is not far to seek. In the one case the patient is obliged to take complete rest, and looks forward to the time when he is reasonably sure of regaining his health and resuming his former occupation. Then his injury is a definite fact, and the question of compensation does not disturb him. When he does

begin to move about he expects to suffer aches and pains before he gains full usefulness of the injured part. This very use of the injured and painful part, after a due period of rest, is the essential thing to promote recovery.

Dr. Chas. W. Burr says: "That trauma may, without injury to the skull or spine, produce organic disease referable to the brain or cord is now accepted by every one competent to have an opinion. Further, certain functional nervous diseases may result from accident, and indeed from fright or shock alone, without any physical injury."

The same writer holds in regard to the causative influence of trauma to locomotor ataxia: "I am compelled to believe that the causative influence is as yet unproved; and must agree with Dr. Martin Prince in saying, 'When sclerosis of the posterior columns developed after traumatism the subject was already doomed to this condition, the process being already begun, and the traumatism at most only accelerated the symptoms and possibly the anatomical process.' "

It is very often observed and noted that general paresis frequently follows traumatism, and I quote Dr. Pearce Bailey on this subject: "In default of better proof of the traumatic origin of a disease which is so common and which has been so frequently the subject of medical inquiry, the conclusion is unavoidable that if traumatism is ever the cause of general paresis, such a causal relationship is extremely unusual and difficult of proof, and is only to be accepted after scrupulous inquiries have eliminated all of the many sources of error." The same author says: "Any of the psychoses may develop after severe injuries to the head, whether the skull has or has not been fractured. Mania and melancholy are among the most common of the traumatic psychoses. They may appear weeks or months after the accident, and usually present no symptomatic differences from like psychoses of idiopathic origin."

Concussion of the brain is conceded by all to occur with all head injuries, and to be of all grades of severity, from a momentary loss of consciousness, such as is frequently seen in a prize fight—for instance, where the man is felled from a blow on the chin and inside of ten seconds is up and ready for business again—to where the party remains in an unconscious condition for hours or days, and finally recovers, leaving no tangible evidence of a lesion having occurred.

There seems to be a strong tendency to deny the possibility of such concussion of the spinal cord because of its strongly protected position, viz., suspended from the medulla and spinal nerves in a bony canal, surrounded by a layer of spinal fluid, and

padded by heavy muscles and fascia; but after much study and experimentation along this line, I have been forced to the conclusion that the spinal cord may suffer from concussion in various degrees, from that where there is only momentary loss or disturbance to that where the paraylsis is complete and lasts for days or weeks, where there is no visible injury to the cord or to its membranes or to the vertebræ.

Hemorrhages into the brain and spinal cord from injury are conceded by all, and are immediately followed by sudden and unmistakable symptoms characteristic of such lesions from other causes as well.

In regard to trauma as a cause of new growths in the brain and cord, I will quote Dr. Burr, who says: "Injury to the head without fracture may be the direct and positive cause of a fibroma and the exciting cause of other tumors."

Paralysis agitans is a disease which frequently follows accident without or with physical lesion. The tremor may begin in an arm or leg, if the trauma has been a local one.

Charot reports the case of a woman "who fell out from a wagon and received a contusion of the left side. She soon had severe pain referred to the sciatic nerve, and in a short time the whole limb began to shake. The tremor was permanent and extended to all the other members."

In a second case "a woman suffered a dislocation of the jaw. The paralysis agitans which soon developed and soon became general first appeared in the jaw."

Gowers believes "fright to be the essential feature in the genesis of this disease."

Pearce Bailey says: "The causative relation of traumatism to progressive muscular atrophy is fairly well established. A considerable number of cases are on record in which injury of a limb was quickly followed by an atrophy of its muscles, a condition which quickly became general."

Less frequently blows on the back or concussion-accidents have been the only discoverable cause of the typical symptoms which shortly after ensued.

Malingering is so often and so wilfully practiced as a means of securing large compensations for either a slight or no injury at all, that we should ever be on our guard to detect and expose such cases, or at least not be a party in helping them to consummate their designs, for it is certainly right that a corporation should enjoy the same rights as the individual.

An instance came under my observation where a car containing about twenty persons was thrown from the track and turned over, severely shaking up the occupants, but none sustained severe

injury. Upon reaching home they took to their beds, and I think all suffered "injury to the spine" until their claims were adjusted, when they all promptly recovered. My preceptor was called to attend one of these cases, and when asked by the husband what his bill was replied $25. The husband said: "Make it $100; I want to put it in at that, and in case of a lawsuit I want your help." This case was settled out of court. These were nearly all wealthy and influential people, as it was a Masonic excursion, and all recovered so promptly after settlement, and have remained well for twelve years, that there is no doubt their ailments were largely assumed.

Professor Bevan in his recent article presented to the American Medical Association assumes that all cases that are able to walk, or resume their journey, are uninjured, and that all cases in which a gross lesion of the brain or cord cannot be demonstrated are unreal and due to mismanagement on the part of the physician. I think all who have carefully studied his article must admit that it is entirely too extreme and lays too much stress on the tangible symptoms, which cannot always be demonstrated at the post-mortem, as cases which I have above referred to abundantly prove.

Old injuries and deformities are at times helpful to the malingerer in establishing his injury, as in the following case: F. B——, aged fifty-five, a section-hand, assumed to have fallen upon the sidewalk and fractured his hip. No one witnessed the fall, but he was sitting on the walk near where there was a defective board, and called to a drayman to take him home. I was called to see him, and could discover no symptoms of shock or facial expression indicative of so grave an injury. Upon examination and measurement I found that one limb was shorter and smaller than its mate. I had known him well, and observed that he was lame since my first acquaintance with him, and learned from his old family physician that this same condition had existed ever since he knew him; yet he recovered damages from the city and an accident company on that old lesion, which had resulted undoubtedly from a mild attack of poliomyelitis anterior which occurred during his childhood.

Cases of malingering are so common and so well known to us all, where patients starve and fret themselves into a state of chronic invalidism over the amount of compensation they wish to recover, and immediately after their claim is settled return to their former occupations and full health, that it seems unnecessary to cite any more to prove that this is the rule and not the exception.

Osler says: "The prognosis in the great majority of cases is favorable as regards recovery; but many cases of severe nervous

shock will continue for weeks, months, or even years, with gradually decreasing severity of symptoms, until they are no longer troublesome. In railway cases, so long as litigation is pending and the patient is in the hands of a lawyer, the symptoms usually persist." Settlement is often the starting-point of speedy and perfect recovery. He further says: "I have known return to health after persistence of the most aggravated symptoms with complete disability of from three to five years' duration. . . . There are other cases which persist after litigation has closed, and finally develop melancholia, dementia, and occasionally progressive paresis."

Treatment should be instituted immediately, whether the symptoms are mild or severe. The patient should be kept quiet in bed and warm for some weeks, and after a time systematic massage may be resorted to. An occasional dose of sodium bromide, trional, or chloral may be administered to secure sleep, and frequent examinations should be avoided. The patient should be encouraged to believe that recovery will be the final outcome and in a reasonable time. Easily assimilable food should be administered in liberal quantities, and strict attention paid to the bodily functions. In case of traumatic lumbago, ironing the back with a hot iron has the double effect of dry heat locally applied, moderate friction, and the cringing causes the patient to involuntarily move the muscles and tendons of the spine, which is conducive to recovery. Later, the exercises of daily life and usual occupations are very helpful. Counter-irritation is advised in severe cases, and where there is specific history the usual remedies for this disease.

In all cases of spinal neurosis it is very important to have the claim adjusted, and in most instances it is better to remove the patient to a hospital and away from sympathizing friends.

To sum up:

1. Slight injuries may produce spinal neurosis.

2. The bodily injury is often less important than the fright element.

3. Patients and their friends often mistake sprains of the spinal column for very grave injuries.

4. The majority of cases against great corporations are either feigned or exaggerated.

5. It is the duty of the expert witness to determine: (*a*) The existence of actual disease; (*b*) its character, whether simple neurasthenia, severe hysteria, or an organic lesion.

6. The prognosis as to ultimate recovery is good, except the cases which present the more serious symptoms of organic disease.

7. Traumatic hysteria is very intractable to treatment.

8. Physical changes may be produced in the human organism

by mental shock or by overwork or worry, combined with exposure and mental and bodily fatigue.

9. Death may result where no physical lesion can be demonstrated either before death or by post-mortem.

10. It has never been demonstrated that locomotor ataxia is caused directly or wholly by injury; but it is very generally admitted that it may be the immediate cause of the onset.

11. Epilepsy, apoplexy, and paralysis agitans may be caused directly and wholly by a traumatism.

I have made some thirty experiments on rabbits to determine the liability of the spinal cord to concussion, and have reported twelve of them as representative of these different experiments. I have also made microscopical examination of several of these cases, but not knowing what to look for did not succeed in finding very much, but I sent in one specimen to Professor Herzog, of Chicago, and he sent me a report which I am sure will be very interesting to all, so I will begin by briefly running over the experiments.

*Experiment 1.*—Struck a rabbit a sharp blow upon the back with a round stick. It was stunned, quivered, stiffened out as if it had been hit in the head, for a few moments, and then had violent spasmodic action of the hind legs for some minutes, after which the hind legs were paralyzed. Suffered from paralysis of sphincter muscles. Twelve hours later had some use of hind legs. Did not improve much for two days; third day could hop on hind legs better, and improved until fifth day, when it could use hind legs fairly well, and seemed in good health. Killed on fifth day by striking a sharp blow on the head, which stunned it for a few moments; then divided the jugular vein; dissected carefully down on the spines of the vertebræ, and found the erector spinæ muscles ecchymosed in region where the blow fell; no fracture of any part of the vertebræ.

*Experiment 2.*—Struck a rabbit a mild blow across the middle of the back; it stiffened out and quivered for a moment, and then had violent spasmodic movements of both front and hind legs and threw itself about, much as a chicken with the head severed, for two minutes, after which it regained consciousness, but was paralyzed in the hind legs; twelve hours later it could draw its hind legs under him, and when killed on the third day had perfect control of itself and seemed in perfect health. Killed by striking a light blow on the head and dividing the jugular veins; was only stunned for a few moments, and died from hemorrhage. There was a very slight ecchymosis under the skin where the blow upon the back was inflicted. The macroscopical appearances of the muscles, vertebræ, and spinal cord were normal.

*Experiment 3.*—Struck a rabbit a slight blow upon the back with a small club. It stiffened out for a few moments, quivered, and then had violent spasmodic movements of all four extremities for about two minutes, throwing itself from place to place; then was paralyzed for a short time in the hind legs. After twenty minutes it could run.

*Experiment 4.*—Struck a rabbit a rather light blow across the back near the shoulders. It was stunned for a few moments, then had violent spasmodic movements, tossing itself into the air and from place to place for two minutes, after which it regained consciousness, but dragged the hind legs; in twelve hours it seemed fully recovered.

*Experiments 5, 6, and 8* were in all respects similar to 3 and 4, except that they lacked the shock and semiconscious manifestations which the others had shown. These had been the subjects of former experiments.

*Experiment 7.*—Struck a rabbit a sharp blow across the back with a round stick of wood. The rabbit did not lose consciousness, but ran for thirty feet or more and then began to lose the use of its hind legs, which soon became paralyzed. The sphincter muscles were paralyzed, and there seemed to be a loss of sensation in the hind parts. This rabbit had been the subject of former experiment. Was killed on the seventh day. The erector spinæ muscles were ecchymosed. There was no visible injury to the vertebræ or spinal cord.

*Experiment 9.*—Struck a rabbit on the back of the neck. It quivered and had convulsive movements for a few moments, and was unconscious for a time; finally rallied, but seemed in a dazed condition; recovered its functions, but lost flesh and looked ill; killed on the fourteenth day and found no macroscopical appearances of injury to the vertebræ or cord.

*Experiment 10.*—Struck a rabbit a sharp blow on the back of the neck; it stiffened out, quivered, then had convulsive movements for two minutes, and died. Upon examination no injury to the vertebræ or cord could be discovered macroscopically.

*Experiment 11.*—Struck a rabbit a sharp blow on the sacrum. The hind legs were paretic for a few moments, after which it moved about as usual. Upon examination one week later the muscles and fascia were found to be ecchymosed.

*Experiment 12.*—Struck a rabbit a sharp blow upon the haunches sufficient to produce marked ecchymosis of the soft parts, with no appreciable symptoms of concussion of the spine.

CONCLUSIONS.

1. Concussion of the spine, causing loss of function for a variable length of time with physical lesion, is readily produced by a blow directly on the back.

2. The degree of concussion depends upon the force of the blow, and may be of momentary duration or last for days or weeks.

3. A blow on the back of the neck may prove immediately fatal without producing any visible injury.

4. It is difficult, if not impossible, to produce concussion of the spine by a blow upon the nates.

5. Rabbits that were subjected to repeated experiments did not show such marked nervous phenomena as they did the first time.

6. The microscope shows a tigrolysis and pycnosis of the tigroid of a considerable number of the ganglion cells of the motor roots, in cases that have suffered from concussion of the spine.

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## THE SMALLPOX EPIDEMIC IN ALMA, MICH. IS IT SMALLPOX? NO.

BY I. N. BRAINERD, M.D., ALMA, MICH.,

Superintendent Brainerd Surgical Hospital; Member Saginaw County Medical Society; Member Michigan State Medical Society; Member American Medical Association.

A case of chicken-pox was reported to me as health officer of the village of Alma, on June 15, 1901. On July 6 another case was reported in the same family. On October 13 another case was reported, which was in no way connected with the other two cases, so far as I know. Early in November four cases were reported in one house.

For these latter cases I got the following history: A Mrs. H—— had been away from Alma visiting, and brought home with her a disease characterized by a papular eruption. It was not thought to amount to anything, and the case was never reported to this office. She gave it to her husband and to the four people last mentioned in the paragraph above. These seven cases were all vesicular, and never pustular, so far as I know. None of them were sick. One of these cases, however, infected more people than any other one person.

On November 24 a Mr. D—— was reported as sick with smallpox. This man claimed that he had acquired the disease from the four cases. This case was more erupted than any of

the others before it, and came nearer being pustular; but it was only a turbid serum. The eruption was papular, conical, vesicular, never umbilicated, and was only epidermis deep. But I placarded and quarantined the place.

Since that time there have been seventy-nine cases, all bearing this general clinical history: The period of incubation is twelve days. In only two instances does it *appear* to have been acquired during the primary fever. The initial symptoms are headache, backache, fever, chilly sensations, nausea, for three days. This far the symptoms are parallel with those of smallpox and with those of influenza. Such variations in these symptoms as I have observed are: sometimes no headache, at other times no backache, and more frequently no chills or no nausea; sometimes no symptoms at all; and sometimes the pain has all been in the belly. On the morning of the fourth day the eruption comes out. So it does in smallpox. Sometimes it comes on the first day, sometimes on the second day, sometimes on the third day, and once it came on the fifth day, and twice on the sixth day. Often the first thing discovered is the eruption, the patient himself not knowing that there is anything the matter with him. The eruption is at first macular, then papular, acuminated, small, of a light but very clear red color, surrounds a hair, and has a shotty feel. Again like smallpox; but now they take diverging ways.

The eruption is very capricious. Sometimes it goes no farther than the macular stage, receding the next day; sometimes the spots become papular for a few days, going no farther, and a brown flake of skin coming off in four or five days; sometimes they become vesicular the first day, sometimes the second day (most frequently), sometimes the third day, and in fully one-half of the cases they never become even vesicular. In smallpox the papules *always* become vesicular. When they become vesicular in this disease the serum is clear at first, quickly becoming turbid, but never purulent. The appearance of the pock at this time is perfectly represented in "Saunders's Hand Atlas—Diseases of the Skin," plate 5. The areola of redness is perfect. (Also see "Photographic Illustrations of Skin Diseases," Fox, p. 25; also Gottheil's "Illustrated Skin Diseases," p. 91.) All of these are illustrations of chicken-pox. In smallpox the vesicles are always umbilicated at some time. In this disease they never are; or certainly not more frequently than in chicken-pox. When they appear to be so, it will be found that the sore is papular only. These flat-topped papules resemble molluscum contagiosum in having a flat and depressed top, but differing in having nothing in them. They are merely edematous swellings, with some inflammation, which wholly disappears. They remain until after the exfolia-

tion, and then have the appearance of a wart-toad. In smallpox there are pits; here there are nodules. In smallpox the umbilications are crenated; here they never are. In smallpox the vesicles always become pustular on the seventh, eight, and ninth days of the eruption. In no instance in my seventy-nine cases have they become pustular; they have filled with a yellowish and milky serum, but never with pus. No more than twenty-five per cent of these cases have ever gotten that far. In smallpox the pocks are multicellular; in this pox they are unicellular.

Desiccation begins in these cases sometimes as early as the third or fourth day of the eruption, and the scab, little more than a flake of epidermis, is off in a week. In others, more severe, desiccation begins in about five days, and is completed in five to seven days more. In smallpox the scab falls off in from eighteen to thirty days.

This scab is yellowish and friable, except for the layer of epidermis in it. It looks like the crusts in eczema, and is produced in the same way. It also resembles the scab of impetigo contagiosa (see Fox, p. 105). The sores in the palms look exactly like those of impetigo, except that the contents do not get so yellow (also see Gottheil, plate xxii). In smallpox the scabs are a dirty-brown, and as large and thick as china shirt-buttons. These scabs are usually about the size of a pin-head.

In smallpox the lesion takes the whole thickness of the skin, and always leaves a scar, as every other lesion of the whole skin does. This disease takes only the epidermis and leaves no scar, with only a few exceptions—not one sore in a thousand.

In smallpox the secondary symptoms begin when the pocks are purulent; and these are three-fourths of the whole disease. In these cases we have no secondary symptoms. The patients are well, for the most part, as soon as the eruption appears.

In all epidemics of smallpox the mortality is from fifteen to fifty per cent (Hyde, in "A System of Medicine," Pepper, vol. i).

In my seventy-nine cases, four have had genuine smallpox before, they claim. This shows that smallpox does not protect against this disease. This is an extremely hard blow at the theory that this disease is smallpox. Especially is this so when placed beside the experience of Dr. Welch, who is just now so much quoted by our State Board of Health as an authority in smallpox. Dr. Welch says that no true second attack was ever witnessed by him in his 5000 cases in the Philadelphia Municipal Hospital. And Dr. Thompson in his "Practical Medicine" (1900) says: "A few unauthenticated attacks have been reported."

In fifty-two of my cases I have records concerning former

vaccinations. Twenty-seven have and twenty-five have not been successfully vaccinated. Most of these were vaccinated only ten months before this outbreak, and a few have been vaccinated since the epidemic came on. Had I had any expectation of using this material I would have ascertained when the other vaccinations were made. Last week I had in my care a baby sick with this disease, who two months ago had it with its parents, as they say; and they claim that it was much more broken out at that time. A few weeks ago a man was in my office from Temple, Mich. He said: "I was one of the men who had the disease last year in the lumber camps; and this year the same set of men are having the disease again." This is hearsay evidence, and must be taken for what it is worth. So neither smallpox nor vaccination protects against this disease.

I have noticed some very queer occurrences in this epidemic. For example, I had four colored children, ranging in age from two to seven years: one had the disease, without vesiculation, and the other three did not take it, although they played and slept together, and none of them were protected. In another family I had a black man who had a few warty papules, stopping short of vesiculation. He was not protected, and smallpox is proverbially hard on the black race. One case was a feeble old lady who had not been out of the house for three months, and knows not when she was exposed. Another woman had been sick for three weeks, and not out of the house. She has no idea who gave it to her. Indeed, one-half of all my cases can give no account of any exposure.

I have had four cases, not included in this list, of well marked primary symptoms, but stopping short of the eruption.

Well, now, what is this disease? I don't know. We are calling it smallpox upon the principle of "When the king takes snuff we all sneeze." But the name is unfortunate; it strikes terror to some, and gives an opportunity to some knavish doctors to rob the public treasury by iniquitous charges. It is worth no more to take care of one of these cases than it is to take care of a case of measles. Almost within my recollection typhus and typhoid fevers were counted as one disease. Then typhoid fever was split off and christened. Fifteen years ago I advocated the identity of diphtheria and membranous croup. I do not think that I had a hearer who believed it then; now everybody admits it. Twenty years ago many believed in a typhomalarial fever; probably nobody does now. Medical views are changing. I predict that this "smallpox" will be split off from the genuine smallpox, and be given a new name.

It might possibly be argued that this is varioloid but for the

fact that people who have never been vaccinated have it just like those who have. Indeed, in my observation they have had it lighter. The occurrence of the primary symptoms without any further symptoms, the aborting of the disease in the maculopapular stage, and the occurrence of the warty surface—the variola verrucosa of the older writers—would be very plausible except for the fact that many of them have *not* been vaccinated.

It is probably a modified form of smallpox—more modified than varioloid—and modified by some agency other than man.

Let me recapitulate by the parallel columns:

| IN SMALLPOX. | IN ALMA-POX. |
|---|---|
| Macule appears on fourth day. | On first to sixth day. |
| Macule has congestion-red color. | Bright pink-red. |
| Papule has shotty feel. | Shotty feel. |
| Papule becomes vesicular on third or fourth day of eruption. | Not generally first to fourth day. |
| Vesicle is umbilicated. | Not. |
| Vesicle becomes pustular seventh, eighth, and ninth days of eruption. | Never pustular; is turbid serum. |
| Pustule desiccates and scab falls in twenty to thirty days. | In five to twelve days. |
| Pock is in whole skin. | Epidermis only. |
| Pock is multicellular. | Unicellular. |
| Pock is followed by scar. | Not. |
| Odor, bad. | None. |
| Secondary symptoms severe. | None. |
| Condition at end of disease greatly reduced. | Not. |
| Mortality, fifteen to fifty per cent. | *Nil.* |
| Smallpox protects. | Not. |
| Vaccination protects. | Not. |

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## CUPROL—A NEW REMEDY FOR THE TREATMENT OF CONJUNCTIVAL INFLAMMATIONS.

BY PRIVATDOCENT DOCTOR VON SICHERER, MUNICH, GERMANY.

In this article I wish to direct to the notice of my colleagues a new preparation which has given excellent results in numerous cases treated by me during the past ten months.

The preparation (cuprol) invented by Dr. Schwickerath, of Bonn, is an organic combination of copper and nucleinic acid, containing about six per cent copper. The nucleinic acid used in the production of cuprol is obtained from yeast cells. The substance is readily soluble in water, especially hot water; the solution yields a clear mixture with albuminous liquids; there is no coagulation, and alkalies cause no precipitation.

The best preparation for practical use is the ten-per-cent solution containing as a preservative half-per-cent chloretone, a chemical combination of chloroform and acetone. It is always advisable to prepare the solution with warm water, as chloretone is also more readily soluble therein.

A notable advantage in this organic copper combination over the inorganic copper salts—for example, copper sulphate—lies in the fact, first, that *even a ten-per-cent solution produces either no pain at all or very slight pain,* and secondly, that it *causes very little irritation to the tissue.* Comparing it with the best organic copper preparation hitherto available, cuprargol, the latter causes much greater irritation to the tissue, and the objectionable sequelæ are much more pronounced. Immediately after dropping the ten-per-cent cuprol solution into the conjunctival sac no pain is felt: it is only after about ten to twenty minutes that a slight burning sensation of short duration develops in certain patients. No unpleasant side effects were at any time observed.

Thus far I have used the copper solution principally in acute and chronic catarrh of the conjunctiva, observing almost always a rapid disappearance of the redness, swelling, and secretion. I have used the solution also in conjunctivitis phlyctenulosa. The slight pain following the dropping in of the solution was gratefully appreciated by all the patients, especially by those who had been previously treated with other astringents.

In chronic catarrh of the conjunctiva, cuprol was used with great success in several cases in which other therapeutic measures had proved ineffective, although it must be admitted that in the treatment of chronic catarrh alternation of remedies is not without value. But also from this point of view it is very satisfactory to command in cuprol a new, powerful, and non-irritating astringent. In obstinate cases the cuprol may be advantageously applied as such in place of the solution, introducing the powder into the conjunctival sac with a little brush. The pain attending this procedure is so slight that it is never necessary to apply an anesthetic, although heretofore the latter has been almost invariably required when using copper sulphate as such on the eyes of sensitive persons.

It is not surprising that we find cases of catarrhal conjunctivitis which exhibit no material improvement when treated with cuprol; it is far from my purpose to recommend cuprol as a panacea in all inflammations of the conjunctiva.

In conjunctivitis phlyctenulosa either the solution or the powder may be administered. Here, too, the malady is favorably influenced by cuprol.

I have no data obtained from my own observation of cuprol in trachoma, hence I cite briefly the results of the experiments made along this line by Dr. Snell, of Sheffield.*

Snell found that cuprol penetrates deeper into the tissue and

*"The Use of Cuprol in Granular Ophthalmia," by Simeon Snell, F.R.C.S. Edin., Sheffield; *Lancet,* Sept. 14, 1901.

irritates less than the ordinary copper salts. He used the preparation in acute and chronic cases of trachoma in powdered form, applying the powder with a brush to the everted lids. Snell lays stress on the slight pain following the use of the remedy. While after the application of the copper pencil the patients were obliged to wait until the pain had somewhat subsided, they could leave at once after the application of the cuprol. The customary anesthetization with cocaine is wholly superfluous when cuprol is used. In several cases Snell used cuprol daily; in other cases three times a week, or even less frequently. In the intervals the patients were instructed to drop in the five-per-cent cuprol solution.

As will be seen from these tests, cuprol possesses two notable advantages: *the slight painfulness, and the slight irritation of the tissue*, which render it superior to the other astringents, especially the inorganic copper combinations, and which warrant its recommendation to a wider circle of practitioners.

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THE ability of the blind to successfully perform massage has been clearly demonstrated in Japan, where they are employed exclusively for this work. Their wonderful delicacy of touch has enabled them, says an exchange, to acquire a high degree of proficiency, and therefore when massage was introduced into Russia, their employment also became general in that country. At the Institute for the Blind in St. Petersburg, a considerable number of the students are carefully instructed in the best methods of performing massage, and also in the main points of physiology and anatomy. Their introduction into other European countries has thus far not been attended with success, although Germany is now making arrangements tending to their permanent employment.

A SOMEWHAT curious point has been raised in the terms of the bequest of Dr. Lyon, who in 1891 left a sum the annual interest of which, amounting to some £55, was to go as a prize to the most distinguished student in the University of Aberdeen of the year. The University Court had petitioned for a settlement in favor of a scheme by which the prize should annually be received by the most distinguished student in the Faculty of Science, but there is much to be said on the score of fairness in favor of the scheme presented to the Court of Session by the reporter, which would give the prize to the most distinguished student in each faculty in rotation. An annual division of the sum among the faculties could not fulfil the terms of the bequest. The settlement will be looked for with interest.

# THE MEDICAL AGE.

**A Semi-Monthly Journal of Medicine.**

EDITED BY FREDERICK W. MANN, M.D.

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## EDITORIAL ARTICLES.

### EXAMINATION OF DEAF-MUTES.

The *Connecticut Mirror* of May 22, 1815, as Alexander Graham Bell tells us, contains an appeal for the deaf and dumb, saying in part: "We have among us a class of our fellow men, the deaf and dumb, who are deprived by a wise Providence of many resources of improvement and happiness with which the rest of mankind are favored. Their numbers, their condition, and the practicability of affording them relief, address loud claims to every feeling heart."

In 1890 there were 41,283 deaf-mutes in the United States. The possibility of teaching the deaf to speak and to read from the lips is well known. This is facilitated if the individual has still some hearing. Unfortunately these vestiges of hearing are not always detected. Already Itard and others could show that vestiges of hearing were found with some people considered totally deaf. We are mostly, however, indebted to Bezold for our recent advancement in this respect. By the aid of his continuous tone-series (continuierliche Tonreihe) which allows him to produce, by the aid of tuning-forks and whistles, every tone, without overtones, from 16 to 16,000 double-vibrations, Bezold could establish the important relation between hearing tones and hearing speech. He was able to show that it is absolutely necessary that a pupil hear the tones from b to g in order to be able to perceive or learn any essential amount of speech by the aid of the ear. Strange to say, the examination by the aid of speech is reported not to be sufficient to detect vestiges of hearing. Bezold could prove that among seventy-nine pupils of a certain institution for deaf-mutes, only fifteen (or nineteen per cent) were totally deaf. The results of Bezold's investigations suggest the advisability that all deaf-mutes, especially pupils, be subjected to the examination by the continuous tone-series, as the mode of instruction must be modified accordingly. If we consider that lately the question has

been agitated of examining daily every school-child, we certainly must recommend that every deaf and dumb child may enjoy the benefit of a scientific test of the function of the ear, which test is of so great importance in determining the future of the unfortunate pupil. It is needless to say that a thorough physical examination of the ear and adjacent parts should supplement the functional test.

## EDITORIAL NOTES.

### The Exclusion of Consumptives.

The prohibition of entry to American ports of subjects of tubercular disease seems to have been urged somewhat strongly upon the government, but it is to be hoped that wiser and more practical counsels will prevail. The unreasonable dread of consumption is further indicated in the announced intention of certain States to exclude consumptives from settlement within them. It is to be hoped that more reasonable if not more merciful views will in time prevail.

### Imitation the Sincerest Flattery.

So favorably impressed were the medical officers of the various foreign nations during the recent trouble in China with the methods pursued by American medical officers, that many of the appliances now in use by our army medical corps have been adopted by them. Great Britain has procured sample sets of our medical and surgical service chests, bath tubs, and brigade hospital mess tents. This has been the first occasion in which our army has been subjected to such thorough criticism, and it certainly is greatly to the credit of the corps to have them set the example to the other nations.

# ITEMS AND NOTES.

Cholera is at present raging on the Java Islands.

In the United States there is a physician to each 637 persons.

$32,000 in legacies were received during the past year by St. Luke's Hospital, Chicago.

Aden, on the Suez Canal, does a large business in the export of salt secured by evaporating sea water.

The smallpox epidemic in London is growing steadily, and the daily average of new cases is about forty.

The suspension of the *Klinitechesky Medical Journal*, published monthly in Moscow, is announced.

During the past year there were nearly 300 medical bills introduced into the New York State legislature.

Consul Lane, at Smyrna, has cabled the State department that the bubonic plague has broken out in Asia Minor.

Congress has been asked to increase the annual appropriation of $20,000 to $30,000 for the investigation of food and nutrition.

A bill has been introduced into the State Council of St. Louis making obligatory the reporting to the Health Board all cases of pulmonary tuberculosis.

In London there is what is known as a Spectacle Mission for those who cannot afford to buy spectacles for themselves. Certain days of the month applicants are given spectacles *gratis*.

The quarantine against Mexican gulf ports, established in the spring, has been raised by the Texas State Board of Health. These ports have been declared entirely free from yellow fever.

Reports from medical men in the Philippines show that the climate of those islands has a very injurious effect on wounds. The time for healing is much longer than in the United States.

In 1888 the Mexican National Board of Health introduced the Pasteur treatment of hydrophobia into Mexico; since that time 4000 persons have been treated, with a total mortality of three per thousand.

Prof. Rudolf Virchow, the eminent pathologist, who has just celebrated his eightieth birthday, slipped recently while alighting from a street-car in Berlin. He is reported to have fractured one thigh bone.

When the new buildings which are being built for the out-patient department of the Massachusetts General Hospital of Boston are completed, they will probably be the most complete of their kind in the world.

Philadelphia's only leper is reported dead. She was a Mrs. Peterman and lived at the Municipal Hospital for the last ten years. It was never discovered how she contracted the malady. She spent all her life in that city, and as far as is known never had been exposed to the disease.

The *Medical Record* is authority for the following: "A woman sixty-five years old gave birth last week, in a New Jersey town, to a healthy girl. The woman's husband is seventy years old, though both are said to be young-looking for their years, and the couple had passed forty years in a childless wedlock."

A bill legalizing osteopathy as a part of the medical profession is now pending in the New York State legislature. Should the bill pass the Board of Regents will be compelled to advance certificates to all osteopaths who successfully pass the regular examination given to all medical students with the exception of that in the materia medica.

In discussing military hospitals, Capt. J. S. Kolb, of the United States Army Medical Department, says that they differ from the civil in almost every particular of patient, administration, and personnel. The commanding officer has great authority and greater responsibility than has the ordinary medical superintendent. He also states that on this account the efforts of the Association of Military Surgeons in this direction are to be commended.

As a further means of avoiding septic poisoning during operations, a special mask is now being used, says an exchange, by a number of surgeons throughout Europe. The invention is the outgrowth of the fact that a great obstacle to thorough antisepsis is occasioned by the danger arising from the breath of the surgeon and his assistants. The mask is of fine gauze and tightly covers the mouth and nose, but does not interfere with the sight, hearing, or breathing. If the protection is as great as is claimed, this mask will soon become an important antiseptic precaution in all operations.

At a meeting of the committee on sanitation of the Pan-American Conference recently held at Mexico City, Volney W. Foster, the American member, advised the creation, says *American Medicine*, of an international sanitary commission of not more than five members from each government. The commission, which should be invested with advisory powers only, should hold annual or periodic meetings at Washington. The business of the committee would be to discuss sanitary matters generally, and to lay special stress on inspection of dangerous or infected ports, and to take proper precautions regarding them.

One of the most recent discoveries of Professor Hensen, the German State marine biologist, is of bacteria which keep the sea fresh by attacking the surplus organic matter in it. Other researches in Plankton show that in some places the sea is a mass of liquid food, which fish and birds inhale, as it were. Even round the arctic and antarctic poles this minute life exists in such a quantity as to permeate and color the sea.—*The Nineteenth Century and After.*

According to an exchange, Dr. John V. Shoemaker, of Philadelphia, is the promoter of a new scheme to afford the 500 victims of pulmonary tuberculosis at the Blockley Almshouse opportunity to obtain all the benefits of fresh air and perfect ventilation. He has now under consideration plans to build eight glass pavilions. The City Council has appropriated $80,000 for their construction, and Dr. Shoemaker has $4000 for their equipment with the electrical appliances necessary to establish his method for treatment of the disease. The pavilions will have steel frames, glass walls and roofs. The walls and roofs will be in sections hanging on pivots, so that they may be readily opened and closed to afford perfect ventilation.

Dr. J. B. Mattison, of Brooklyn, has offered a prize of $400 for the best paper on the subject, "Does the Habitual Subdermic Use of Morphine Cause Organic Disease? If so, What?" The contest will be open for two years from December 1, 1901, to any physician in any language. The award will be determined by a committee consisting of Dr. T. D. Crothers, Hartford, Conn., editor *Journal of Inebriety*, chairman; Dr. J. M. Van Cott, professor of pathology, Long Island College Hospital, Brooklyn; and Dr. Wharton Sinkler, neurologist to the State Asylum for the Chronic Insane, Philadelphia. All papers must be in the hands of the chairman by or before December 1, 1903. They will become the property of the American Association for the Study and Cure of Inebriety, and be published in such journals as the committee may select.

The Marquis de Magaz, who recently died at Madrid at an advanced age, was a leading member of the medical profession in Spain. He was for some time professor of physiology in the University of Barcelona, and later was transferred to Madrid. There he filled the office of Dean of the University. He was also a member of the Council of Public Instruction, and representative of the University of Barcelona in the Spanish Senate. He retired from active professional life many years ago. The Marquis de Magaz was a member of the Spanish Academy of Medicine, and the author of various works, the principal among them being a treatise on physiology, which enjoyed a long run of popularity in the Spanish schools.

The report of the Imperial Health Office of Germany shows, says an exchange, that the success of the open-air treatment in that country caused the erection of a large number of establishments (sixty) with 5000 beds in the spring of 1901. In most all the cases the patients had been sick for almost a year without applying for admission to the institution. The average duration of treatment was 92.4 days for each patient. Data to the final results show that of each 100 patients treated 87.7 per cent were discharged as cured or improved, 8.8 per cent left unimproved, 3.1 per cent were worse, and one-half of one per cent died. The favorable results were in part due to the careful selection of cases suitable for treatment in the institution.

In his volume on diseases of the hair, Sabouraud refutes some popular errors regarding the cause of baldness. Baldness is usually considered an infirmity of old age, and when it takes place in early life all sorts of explanations are invoked, one as baseless as another. As a matter of fact, the critical age for baldness in men is from twenty to thirty years. Women are less open to attacks of the microbe of this disease. The earliest baldness occurs in men of from sixteen to eighteen years, and the skull is often bare at twenty-two. The most common age for the beginning of the disease is twenty-three, and it is usually complete at fifty. The latest age for the beginning is about forty, and in such cases the denudation of hair proceeds with extreme slowness. The younger the subject the quicker the disease attains its complete effect. It is not a malady of the aged, but rather of the young.—*New York Sun.*

To stop distribution of patent medicine samples, the District Commissioners of Washington have decreed that a fine of not less than $5 nor more than $25 shall be imposed on any person who shall "throw, deposit, drop, scatter, or leave or cause to be thrown,

cast, deposited, dropped, scattered, or left upon any public highway or place in the District of Columbia, any medicinal or toxic substance, either in package or in bulk, except officers, employees and agents of the United States or the District of Columbia distributing such material for the purpose of disinfecting or cleansing." Provision is also made that the medicinal or toxic substance must not be left "in or upon any premises in the District of Columbia, without the consent of the owner or occupant of said premises, except officers, employees, or agents of the District of Columbia."

JONATHAN HUTCHINSON, F.R.S., general secretary of the New Sydenham Society, has requested Messrs. P. Blakiston's Son & Co., of Philadelphia, the American agents of the society, to announce the publication of "An Atlas of Clinical Medicine, Surgery, and Pathology," selected and arranged with the design to afford, in as complete a manner as possible, aids to diagnosis in all departments of practice. It is proposed to complete the work in five years, in fasciculi form, eight to ten plates issued every three months in connection with the regular publications of the society. The New Sydenham Society was established in 1858, with the object of publishing essays, monographs, and translations of works which could not be otherwise issued. The list of publications numbers upwards of 170 volumes of the greatest scientific value. An effort is now being made to increase the membership, in order to extend its work.

GREAT dissatisfaction, says *American Medicine*, is expressed over the meager pay of hospital stewards of the army. At present they receive but $30 a month; a full steward receives $45. The duties of the stewards and acting stewards are to look after and distribute hospital stores and supplies; to care for hospital property; to compound and administer medicines; to supervise the preparation and serving of food; to maintain discipline in the hospital and watch over its general police; to prepare the hospital reports and returns; to supervise the duties of the hospital corps in hospital and in the field. The steward must be an efficient disciplinarian, expert clerk, accurate arithmetician, and a trustworthy pharmacist, with as much knowledge of materia medica, therapeutics, and minor surgery as will enable him to give sound advice and suitable treatment in the minor ailments and accidents; in addition he must have that higher knowledge for use in the wards which enables the experienced nurse to appreciate the condition of those who are seriously ill. The pay is considered entirely inadequate to the services required.

# NEW PUBLICATIONS.

## DIET IN RELATION TO AGE AND ACTIVITY.

The classical little work of Sir Henry Thompson on diet is now reissued, its author having entered his eighty-second year. It has been thought that his increased experience has enabled him to speak more authoritatively than ever on the conduct of life, so that advancing years may be made a blessing to their possessor. It is needless to say that the reader who takes up this fascinating little book will not relinquish it until he has arrived at the last page. It is one of the most perfect pieces of literary composition that can find a place in the physician's library.

Diet in Relation to Age and Activity. By Sir Henry Thompson, Bart., F.R.C.S., M.B. Lond., etc. London and New York: Frederick Warne & Co.

## GENERAL MEDICINE.

The present volume is one of a series of ten issued at monthly intervals and covering the entire field of medicine and surgery. The series is intended to do much of the work hitherto done by year-books, every month a new department issuing its respective volume. The number on General Medicine is from the pen of Dr. Billings, and appears to be a concise and capable condensation of progress in many branches of medical science.

The Practical Medicine Series of Year-Books. Edited by Frank Billings, M.S., M.D. Volume I: General Medicine. Chicago, Ill.: The Year-Book Publishers, 40 Dearborn Street.

## A MANUAL OF CLINICAL LABORATORY METHODS.

The rapid rise of the clinical laboratory as an indispensable adjunct of the practitioner's requisites has led to guide-books in the formation of such institutions finding a direct field of usefulness. This work is probably the most comprehensive and complete guide to the subject which has yet appeared. Now that laboratories are springing up in every city, there is little doubt that books of this kind will be in general demand. The work is amply illustrated, and will be welcomed by laboratory workers.

A Manual of Clinical Laboratory Methods. By John B. Nichols, M.D. Illustrated. New York: William Wood & Co.

## GENERAL SURGERY.

Another volume in the Practical Medicine Series is one by Dr. John B. Murphy, surveying the field of general surgery. The reputation of the author is an adequate guarantee that the work has been well done. This series of practical medical manuals is one that is bound to win a place in popular favor.

The Practical Medicine Series of Year-Books. Volume II. Edited by John B. Murphy, M.D. Chicago, Ill.: The Year-Book Publishers, 40 Dearborn Street.

# THE PROGRESS OF MEDICAL SCIENCE.

## SURGERY.

### The Microbe of Cancer.

The Paris Academy of Medicine has been considering recently a paper laid before it by Dr. Doyen (*Lancet*, Jan. 11, 1902), in which that eminent surgeon announces the constant presence of a new microbe in cancerous tumors—a microbe which after a patient research of fourteen years he has been able to isolate and to cultivate. The discovery of the pathogenic microbe of cancer has been often announced before; but Dr. Doyen has not taken the risk of his statement without being sure of his ground, and has in no way lightly wagered his reputation. The microbe appears in the form of motile diplococci, one coccus of which is sometimes four or five times as big as the other. Dr. Doyen has managed to cultivate these cocci in tubes of gelatin and of gelose, with the addition of a special nutritive bouillon. Two specimens of cancerous tumors taken from very different organs gave out of 250 tubes inoculated fifty positive results—*i.e.*, fifty pure cultures of diplococci. The growth appeared as a rule within from twenty-four to forty-eight hours, but sometimes not until four or five days had elapsed. Besides the diplococcal form the microbe appeared in the form of short chains which sometimes grew in the shape of a Y. On gelose the microbe appeared as a whitish-gray growth, which when taken up by the platinum needle went into thick viscous filaments. In sections of the growth the microbe was difficult to find. It was more easily found in the affected glands and in those secondary growths which were furthest from the original growth. It is found in the blood in exceptional cases of cancerous fever, and in lymphangitis due to cases of pseudo-erysipelatous cancer.

Dr. Doyen found the microbe in great purity in a secondary tumor of the pericranium which appeared two years after the removal of a cancer of the breast, in which case there was no local recurrence. It was also found in a serous discharge from the nipple of a woman who had no tumor of the breast, but who was still under observation. Cultures injected into animals produced a very intense epithelial inflammation, which was followed by the formation of adenomata. In reality the microbe brings about increased growth of those cells with which it comes in contact. The cells appear to multiply by a kind of inflammation, but the white corpuscles do not present the usual phagocytic phenomena. There are also to be found in the case of glands in connection with

a tumor, which are swollen but not obviously infected, certain cells full of microbes which are difficult to stain. Dr. Doyen found his "micrococcus neoformans" in the juice from a mammary tumor in a bitch and in the juice of various tumors in human beings, such as sarcomata, cystic tumors of the breast, and in slowly growing and sclerosing epithelial tumors. From these last no cultures could be obtained. All those cases which gave positive results in the culture-tubes were cases in which recurrence occurred with great rapidity. The points of recurrence, secondary tumors and affected glands, yielded similar cultures to those of the original growth. In the case of very malignant tumors cultures were obtained, provided that suitable media were used, in about twenty-four hours. Subcutaneous injection of the toxin of this microbe, attenuated in a special manner which Dr. Doyen has not yet made public, brings about, especially in the affected glands, a reaction similar to that produced in tuberculous glands by tuberculin. Postoperative injection of this toxin has given satisfactory results which have endured for six months, but Dr. Doyen adds that these results must be confirmed by further observations. These injections must not be given in the case of very rapidly growing tumors, for in such cases they produce a violent reaction comparable to that brought about in local masses of tubercle by the first tuberculin of Koch. On the other hand, these injections appear to have given good results in patients who have been operated upon and in whom no growth is left as far as can be ascertained. In such cases the injection appears to prevent recurrence.

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### Treatment of Aneurisms.

At a recent meeting of the Vienna "Gesellschaft der Aerzte," Eiselberg (*Medical Press,* Jan. 15, 1902) showed a trunk-maker, aged fifty-two, who presented a pulsating swelling over the space between the adductors of the left leg. Examination revealed a large aneurism of the femoral artery about twice the size of the fist, the artery being one-half its normal size above this point. The heart and other vessels were normal. The patient had frequently complained of cold vermiculation and a boring pain in the left leg.

At the end of November last the aneurism was totally extirpated. On examining the section microscopically two longitudinal oval slits were observed in the vessel walls, while the microscope revealed an enormous increase of the fibrous tissue between the two layers of the intima.

In his description of this operation the writer said he had performed eleven extirpations for this lesion—five in the popliteal

space, four in the femoral, one in the brachial, and one in the temporal arteries. In all these cases the lesion was due to direct damage to the artery. Nine at least could be so attributed, although two were assigned to forced marches of sixteen hours at a stretch.

In all cases the aneurisms appeared shortly after the lesion, such as stab from a knife, cut from a scythe, etc. In one of these cases, however, the aneurism remained stationary for sixteen years, till one day it commenced rapidly to increase in size, demanding immediate operation. In all the cases save one the operation has proved a perfect success, the exception being one where resection of the vein was necessary on the dorsum of the foot, and this determined gangrene, followed by erysipelas and death. The permanency of the recovery cannot be so dogmatically affirmed, as many of the patients returned in the course of two years complaining of "sleeping" of the leg, or formication and boring pain in it. In seven of them recurrence did not take place until after two years, and only two of the cases have remained perfectly well.

In one case the gangrene set in six weeks after operation, but this was very soon recovered from. In the case presented to the society the patient was attacked with a bluish-black condition of the toes and foot. This may finally end in gangrene also.

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### The Cause of Diffuse Peritonitis Complicating Appendicitis, and its Prevention.

A. J. Ochsner (*Journal of Surgery and Gynecology*, January, 1902) says that peristaltic motion of the small intestines is the chief means of carrying the infection from the perforated or gangrenous appendix to the other portions of the peritoneum, changing a circumscribed into a general peritonitis. This can be prevented by prohibiting the use of every kind of food and cathartics by mouth, and by employing gastric lavage in every case in which there are remnants of food in the stomach or in the intestines above the ileocæcal valve, as indicated by the presence of nausea, vomiting, or meteorism. The patient can be supported by the use of concentrated predigested food administered as enemata not oftener than once in four hours, and not in larger quantities than four ounces at a time. This form of treatment, when instituted early, will change the most violent and dangerous form of acute perforative or gangrenous appendicitis into a comparatively mild and harmless form. Cases of perforative or gangrenous appendicitis

with beginning general peritonitis can usually be carried through the acute attack safely with this method. In all cases of this class gastric lavage should be practiced in order to prevent the absorption of decomposing material from the alimentary canal. In cases of doubtful diagnosis this form of treatment should always be employed.

This treatment will prevent a large proportion of the most troublesome complications and sequelæ of appendicitis, such as ventral hernia, fecal fistulæ, extensive adhesions, etc. The patient should be permitted to recover fully from his acute attack before an operation is performed, except in cases encountered within the first thirty-six hours after the beginning of an attack, or in case of the formation of a superficial circumscribed abscess. It often requires but a small amount of any kind of food to change a harmless circumscribed into a dangerous diffuse peritonitis. The treatment does not protect the patient against a subsequent attack. It does not contraindicate the removal of a diseased appendix before the septic material has extended beyond this organ. It is indicated in all intra-abdominal conditions in which it is desirable to prevent the distribution of septic material by means of peristaltic motion. The laity should be taught to stop feeding and giving cathartics to patients suffering from intra-abdominal diseases.

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### A Rare Sexual Anomaly.

Dr. Edward Bowe (*Clinical Reporter,* January, 1902) reported recently the case of a farmer, twenty-seven years of age, who had always enjoyed good health, but since the development of puberty had been embarrassed by the following rare condition: Although he was possessed of an intense sexual desire, with erections firm, persistent, and complete, try as he might he had never lost one drop of semen, or experienced a sexual orgasm. The sensation that he experienced during the sexual act was that of increasing sexual desire and pleasure with the sensation of approaching ejaculation and emission, but it never reached the climax, nor did he experience the phenomena of the completed sexual act.

The author considers this not a functional but an organic disorder, due to occlusion of the ejaculatory duct near the urethral orifice. His reasons for this diagnosis were the sensations experienced during the sexual act, the sensation of approaching ejaculation and orgasm being the same as in the normal sexual act. The phenomena of ejaculation, he says, began in the testes and pro-

gressed along the vasa deferentia; hence occurred the sensation that accompanied the normal sexual act, but as the seminal fluid never escaped into the urethra, the reactive phenomena of the completed sexual act were not present. It was the reabsorption of so highly a vitalizing secretion as the seminal fluid that was responsible for the excellent condition of the patient's general health, and his persistent sexual stamina. This condition might, the author says, occur as a sequela of gonorrhea, but as a congenital condition he is unable to find a single case recorded in the literature at his disposal.

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## MEDICINE.

### Some Experiments on the Formation of Bile Pigment and Bile Acids: A Contribution to Our Knowledge of Icterus.

A. C. Croftan (*Philadelphia Medical Journal,* Jan. 18, 1902) has made a number of experiments on the lower animals to determine whether the formation of bile acids and bile pigments took place in the liver alone. He says the blood entering the liver contains no bile pigment and no bile acids; if these substances, therefore, are not known to enter the liver and are still excreted by the organ, they must necessarily be formed by the liver alone.

Ligation of the ducts of the liver is followed by the appearance of bile acids and bile pigments in the tissues, the blood, and the urine.

After extirpation of the liver in frogs, bile pigment and bile acids are not found in the blood, the tissues, and the urine.

Attention has already been called to the difficulty of detecting bile acids and bile pigments in the blood. Such manipulations as coagulation of albumen by heat, evaporation of filtrates, etc., all lead to the precipitation or the destruction of the bile pigments, and to a slighter degree of the bile acids. In view of all this and the minimal quantities that at best could be present in the portal blood or the blood of the hepatic artery, it is not surprising that bile pigments and bile acids were not discovered there; at the same time, as it has been shown that they are present in the systemic blood, they must also enter the liver; this argument, therefore, collapses.

As by far the greatest portion of hemoglobin, dextrose, and trypsin are present in the liver, and as they are brought in the most intimate contact there, the most of the bile acids and bile pig-

ments are formed there; in addition the liver seems to have the power of arresting and of excreting all the bile acids and bile pigments that circulate through it. Consequently any obstruction to the outflow of bile must needs be followed by a reabsorption of bile constituents; under these circumstances they appear in the blood in quantities so large that they can be detected in the tissues, the urine, etc., by the coarser, ordinary methods.

Extirpation of the liver, aside from being an operative inroad of such violence that it might pervert any normal process, interferes with the glycogen-dextrose economy of the body. With a destruction of glycogenesis one of the three fundamental conditions for the formation of the bile acids and the bile pigments, viz., the presence of sugar, is not fulfilled; consequently no formation of these substances can occur, and they do not accumulate in the tissues, the blood, and the urine. It is possible that even here under stated conditions some conversion of hemoglobin may occur for a time with the aid of residual sugar; at best, however, it would be minimal, and no experimental data bearing on this question are on record.

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### The Treatment of Involuntary Micturition in Children.

G. Frank Lydston (*Pediatrics*, Jan. 15, 1902) says that the urethral sound is one of the most valuable measures for the treatment of a large proportion of cases of involuntary micturition in children. It acts in three ways: First, by blunting the sensibility of the nervous supply of the vesical neck, thus correcting hyperesthesia; secondly, by decongesting the mucous membrane of the deep urethra, *i.e.*, the vesical neck; thirdly, in cases of a purely neurotic type it stimulates the relaxed sphincter vesicæ to contract, and, so to speak, exercises it. The resentment which the muscle offers to the entrance of the sound produces a stimulation of nutrition of the muscle, increases its bulk, and adds to its tonicity, thus enabling it to resist with more success the egress of urine. Many otherwise obstinate cases are cured very rapidly by systematic sounding. All sources of reflex irritation should be relieved; the prepuce, if phimosed and redundant, should be removed, and all adhesions separated; the meatus, if narrow, should be cut. Caruncule of the urethra and preputio-clitordal adhesions may demand attention in female children.

Next to the sound, the most efficacious method of treatment in the purely neurotic cases is the injection of strychnine beside the spinal column in the lumbar region. The dosage is of course to be in proportion to the age of the child, but as a single daily dose

is given a larger quantity can be administered than where it is given internally three times daily. The injection should be made deeply into the substance of the erector spinæ muscle, and as close to the spinal column as possible. In several instances in the author's experience a cure has resulted from a short course of these injections. In one instance, the case of a girl twelve years of age, the daughter of a physician, cure resulted from the succession of three injections in the lumbar spine of 1-15 of a grain of sulphate of strychnine.

Where vesical catarrh is a factor in the cases, and especially in cases where the urine is alkaline or neutral, urotropin is often of value in connection with the usual local measures for the correction of the condition.

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### Tuberculosis of the Bladder.

Tuberculosis of the bladder, says G. A. Burgham (*Canada Lancet,* January, 1902), is very rarely a primary condition, being usually secondary to a similar condition in some other part of the genito-urinary tract, either by ascending or descending continuous infection. If the disease be primary and no pyogenic infection be produced by instrumentation, etc., its progress is slow, and under proper treatment extensive and general infection may not occur for years, and the patient be made to enjoy a reasonable amount of comfort. On the other hand, when the disease is active and complicated by a similar condition in kidney or epididymis, then general infection and a fatal result may be looked for in the near future. Unfortunately, early diagnosis is not easily made. Subacute catarrh of the bladder may be caused by stricture, enlarged prostate, or calculus, and the symptoms will closely resemble those of tuberculosis. Then the temptation to use the sound is great, and thus pyogenic infection may be introduced, at once accelerating the progress of the disease and increasing the suffering of the patient.

If we realize the difficulty of rendering aseptic the anterior urethra, and the dangers in a pyogenic infection of an already diseased bladder, we will use the sound less and less frequently in our efforts at diagnosis; and should we determine to use sound or cystoscope, instrument and patient should be prepared as scrupulously as for any major operation. We should depend rather upon a careful consideration of the whole history of the case and of the individual symptoms. Pain, tenderness over the pubes and in the rectum, frequent micturition, merging later into actual incontinence as the bladder contracts and the ulceration increases, hema-

turia, pyuria, are all usually present sooner or later in tuberculosis of the bladder. But the pain is not nearly so severe as when a calculus is present, nor is the hematuria so profuse and constant, nor do we have the sudden stoppage during urination so characteristic of stone. Usually the exclusion of stricture is not difficult, and senile prostatic enlargement is excluded by rectal palpation.

## THERAPEUTICS.

### "Gasu-Basu:" A New Local Anesthetic.

A new local anesthetic obtained from an Indian plant, called "gasu-basu," has recently been submitted to careful examination by some Hungarian dentists—Professor Arcovy, Dr. T. Madzsar, and Dr. B. Balassa, of Budapest. The anesthetic action of this substance was discovered a year ago by a dentist in Fiume, Dr. D. Dalma (*Lancet*, Jan. 11, 1902), who tried the effect of gasu-basu in cases of painful pulpitis, and recommended it as a powerful agent which might replace arsenic in the treatment of that condition. Dr. Dalma also separated the active principle of the plant, which proved to be an alkaloid, and in his later experiments he used the salt obtained by treating the alkaloid with hydrochloric acid. This salt has been named "nervocidine," and its pharmacological properties have been investigated in Professor von Bokay's laboratory in Budapest by Dr. B. von Fenyvessy, who obtained the following results: Nervocidine is a yellow, hygroscopic powder, easily soluble in water, less soluble in ether and alcohol. The aqueous solution froths if shaken and gives all the reactions of an alkaloid. Nervocidine is amorphous and cannot be obtained in a crystalline state. In weak solutions (one-tenth or one-twentieth per cent) nervocidine produced a marked local anesthesia of the cornea of warm-blooded animals. Two drops of a one-twentieth per cent solution applied to the human conjunctiva produced a burning sensation accompanied by lacrimation, and followed after twenty minutes by anesthesia of the cornea lasting for five hours. After seven hours the cornea regained its normal condition. A one-tenth per cent solution of nervocidine brushed over the mucous membrane of the cheek caused local anesthesia of the brushed surface and of the tongue accompanied by loss of the sensation of taste and the perception of touch, but without loss of the perception of heat and cold. Solutions of a strength exceeding one-half per cent produced irritation of the cornea, and by application of a two per cent solu-

tion to the cornea of rabbits and dogs a severe ulcerative keratitis lasting from five to ten days was produced, but on the twelfth day this keratitis was entirely gone. The anesthesia of the cornea persisted during the whole course of this keratitis, and the sensibility returned with the recovery of the cornea, which did not afterward show any trace of the previous inflammation.

Attempts to produce local anesthesia by subcutaneous injections of nervocidine in animals have not yet been successful. The general action of nervocidine on the system is that of a poison producing death by paralysis of the motor centers of the nervous system and of the peripheral nerves. All experiments proved that nervocidine is a powerful local anesthetic which has the advantage of producing a much more sustained action than cocaine, for the effect of a one-half or one-fifth per cent solution might last for two or three days. It is, however, not without its drawbacks, such as the local irritation to which it gives rise, the slow production of the anesthetic state (from ten to twenty minutes being required), and a liability to the occurrence of nausea, vomiting, salivation, and other symptoms of general poisoning. Nervocidine is an interesting addition to the list of local anesthetics, but its practical application is at present restricted to the purposes of dentistry. In the treatment of pulpitis it has been found particularly useful in the Budapest dental clinics.

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## OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

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### Some Aural Complications of Influenza.

S. MacCuen Smith (*Philadelphia Medical Journal*, Jan. 11, 1902) believes that the first manifestations of aural complications in influenza should receive prompt and energetic treatment. He recommends the use of hot antiseptic solutions. The membrana tympani, etc., should be frequently examined, and an early incision of the drum-head performed, followed by antiseptic irrigations and introducing a strip of iodoform gauze well into the deep canal, even in cases where there is but slight bulging of this membrane. Following this treatment many cases will make a prompt recovery. After the secretions have been removed by irrigation or a cotton carrier, the parts can be dried with cotton

and hot air, and dusted with some impalpable powder, such as aristol or nosophen, care being taken to only dust the surface, leaving no excess there to be impacted or interfere with drainage.

## DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Lecturer on Dermatology, Detroit College of Medicine.

### The Diagnosis of Smallpox.

From an editorial in the *Medical Record* of January 25, 1902, the following is taken:

"Dr. J. MacCombie read before the Hunterian Society in London on November 13 last a paper on the differential diagnosis of smallpox. Dr. MacCombie holds that the diagnostic points between chicken-pox and smallpox are the following: (1) The distribution of the eruption; (2) the shape of the vesicles; (3) the unilocular character of the vesicles of chicken-pox compared with the multilocular nature of the vesicles of smallpox. . . .

"In chicken-pox the eruption is most abundant on the trunk, less so on the face, still less so on the forearms and legs, and least of all on the hands and feet. All cases of chicken-pox present typical vesicles on the abdomen, chest, back, thigh, or arms. . . .

"MM. H. Roger and E. Weil, in *La Presse Médicale* of July 30, 1901, think that the only way of making a possible diagnosis of smallpox is in most cases to examine the blood. If an excess of lymphocytes or especially of myelocytes be found present, it is possible to exclude measles, scarlet fever, and purpura, and thus arrive at a diagnosis of smallpox."

## GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,
Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

### The Impropriety of Cæsarian Section in Placenta Previa, with Remarks on a Rational Method of Treatment.

Hugo Ehrenfest (*American Medicine*, Jan. 11, 1902) says that the results of Cæsarian section at large are worse than is

usually stated. In contradistinction, the results obtained by the usual treatment of placenta previa are far better than is generally believed. There is every reason to expect that the results of Cæsarian section performed in cases of placenta previa will be much worse than those of the classic operation. If Cæsarian section as a means of treating placenta previa is contemplated, Porro's radical operation, with extirpation of the uterus, according to the indications for this operation, may have to be performed in the majority of cases. The treatment of placenta previa by means of Cæsarian section does not seem to hold out promise of considerably augmenting the number of children saved. A careful study of the published statistics shows that the most promising treatment of placenta previa is the following:

In cases of deep-seated placenta, or placenta previa marginalis, hemorrhages but seldom occur before labor pains set in. These hemorrhages usually stop spontaneously during the course of birth. The head or breech, passing deeper into the pelvis, compresses the free, bleeding edge of the placenta. If the progress of the presenting head or breech is delayed, as happens in multiparæ, or when there is a slightly contracted pelvis, it can often be accelerated simply by artificially rupturing the membranes. This trifling operation sometimes suffices to stop the hemorrhage. If, however, the bleeding continues, while the head or breech is deep down in the pelvis, then—and then only—a tight tamponade of the vagina is indicated. The bleeding edge of the placenta is thus compressed between the fixed fetal part and the tampon. Under these circumstances we have a tampon that does not push off the placenta from the uterus, as is always the case when a tampon is thoughtlessly introduced before the head or breech is fixed in the pelvis. The tampon has to be removed after a while in order not to retard the progress of the child. If the head is deep enough, and the cervical canal fully dilated, forceps can be applied. In cases of abnormal position of the child, as oblique or transverse presentation, or if the cord is prolapsed, etc., bipolar version, according to Braxton Hicks, should be performed so soon as two fingers can be passed into the cervical canal—*i.e.*, the foot is simply pulled down in cases of breech presentation. In cases of placenta marginalis, at the time of any considerable bleeding, the cervical canal will usually allow the passage of two fingers. If it does not, it should be dilated by means of a colpeurynter. The turned fetus is pulled down until the knee of the child can be seen in the vulva. Then the thigh and breech press the edge of the placenta against the bony parts of the maternal pelvis and act as a tampon from above. From now on the expulsion of the fetus is left to the natural powers of the uterus. Forced ex-

traction after the version has been performed should not be undertaken. A very deliberate and careful extraction may be attempted in some cases, but only if there is a chance to save the life of the fetus. The best way is to fasten a ribbon to the child's foot, to the free end of which a weight of two pounds is attached. If this ribbon is placed over the foot of the bed, a continuous gentle traction is exerted upon the fetus. This traction guarantees the checking of the hemorrhage between labor pains, and expedites the expulsion of the child without danger of producing a laceration.

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### Gonorrheal Vulvovaginitis in Children.

Reuben Petterson (*American Medicine*, Jan. 11, 1902) says that vulvovaginitis in a young girl may be divided into simple and gonorrheal. Simple catarrhal vaginitis is due, in a large majority of cases, to lack of cleanliness, and subsides when the proper treatment is instituted. Gonorrheal vulvovaginitis in young children is more common than is generally supposed. While more frequently met with amidst unhygienic surroundings in large cities, it is by no means a rarity in the less thickly settled districts. Gonorrheal disease is more frequent below the age of six, and is more common in girls than in boys. Specific vulvovaginitis in the large majority of cases arises from actual contact of the patient with some infected person. A study of the reported epidemics, however, shows that the disease may be spread by other means, such as a common bath, towels, bed-linen, etc. The ordinary staining methods will prove satisfactory in making a differential diagnosis between specific and other forms of vulvovaginitis. The parts affected in their order of frequency are the labia, urethra, vagina, and cervix; the vagina is more frequently affected in the child than in the adult, owing to the character of its epithelium. The tubes, ovaries, and peritoneum may be involved in the pathologic process. It is not improbable that certain diseases of adult life may be ascribed to gonorrheal infection in infancy. Purulent ophthalmia and rheumatism are quite frequent complications. The strictest prophylaxis should be observed in order to avoid the former. The treatment of specific vulvovaginitis must be energetic to be of any avail. Under certain conditions the vaginal orifice should be widely dilated and the vaginal pus cavity properly drained.

# THE MEDICAL AGE

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## ORIGINAL CONTRIBUTIONS.

### THE PHYSICIAN AS A BUSINESS MAN.

BY J. HOWE ADAMS, M.D., PHILADELPHIA.

It was my fortune to serve as assistant to a physician of international reputation during the last three years of a fifty-four-year practice. This physician had probably done more to bring honor and respect to the medical profession than any other American practitioner. In his waiting-room at one time could be found patients from Mexico, Canada, and far-off India. His time was fully occupied with the duties of his profession among that class of patients it is natural to suppose would be most able to pay their bills. Yet, to my surprise, I found that fully fifty per cent of his office practice at least was charity work. Not only that, but his charges for those who did pay were phenomenally small. One patient from Texas came to consult this surgeon in regard to his condition; the patient had a large roll of bills in his pocket, and a check for a large amount besides to pay his consultation fee; his surprise may be imagined when the modest sum of three dollars was given as the amount of his indebtedness. This surgeon was famed for his low charges, and yet, undoubtedly, very few people knew how far he carried this principle. After his death there was collected for his estate only a few hundred dollars from his outstanding accounts where thousands had been owed.

This principle of low charges "beared" the market for other surgeons, for the younger, less known man could scarcely charge a hundred dollars for an operation when he knew that Agnew would charge only fifty. And yet the most successful physicians, as a rule, are those who have looked as Agnew did

upon the practice of their profession as a calling to relieve suffering and sorrow as fully almost as the minister in his work. The first object of their work was not the idea of accumulating fortunes. There must ever be a great difference between a business and a profession. The law of to-day still recognizes the principle of the old Roman motto, *"Emptor cavcat"* ("Let the buyer beware"). But this sentiment cannot exist in the three learned professions. When a man goes to buy an acre of ground he has some ideas of his own upon the subject, and he can judge, more or less intelligently, of what he wants; but if he goes to his physician to find out whether he has appendicitis, he must practically place his life on the judgment of another man. The relation of physician and patient, therefore, is one of the most confidential in the world, and the practitioner who would allow his own financial welfare to be consulted in the treatment of the case is a scoundrel.

At the same time there is much undoubtedly that can be done to place the practice of medicine on a better business basis. The first of these is the dispensary and hospital abuse. Nowadays hospitals are yawning open for more cases, while the dispensary reports must show increasing numbers of patients yearly, until it is astounding how many cases are treated in a year in these worthy institutions. Undoubtedly in hospital practice many patients are so situated that their admission into a hospital is imperatively demanded. Yet while practicing as district physician for several years among the poorest patients in Philadelphia's slums I did not send more than a dozen patients to the hospitals, for I found they could be fairly well cared for by their families and friends. When it comes to the question of dispensaries, the evil has grown so flagrant that, in some States, legislative action has been taken in the matter. Seventy-five per cent is a modest estimate of the number of people who are able to pay something, who are at present treated for nothing in dispensaries. In certain dispensaries undoubtedly ninety per cent of the patients can well afford to pay. In fact, there is a popular ignorance among many people in regard to dispensaries. They go to these places for better treatment, and not at all with any idea of getting charity. In a dispensary where I was attending physician, two patients becoming ill in bed sent for me. I found one the wife of the manager of a leading commercial agency enjoying a salary of $15,000 a year; the other patient was a well known manufacturer occupying a suite of rooms at our principal hotel. When I asked why they were charity cases both were horrified and offered at once to pay somebody or anybody for their visits. They had come for better treatment. Every dispensary should require a pledge or statement that the patient is unable to pay. In this dispensary some

thousands of cases are seen yearly; probably ninety per cent could pay a dollar a visit.

There spring up occasionally men who realize that there is a great class of patients who are willing to pay twenty-five or fifty cents for an office visit, if medicine be included, as it were introducing the idea of the department store into the field of medicine. There is no doubt that the physicians employed by such men, even if skilled, cannot do much for their patients. If they charge twenty-five cents a visit and get a salary of three dollars they must see twelve patients to make their wages. Hence the patients are run through as grain through a fanning mill. If the patient complains of a headache, he is given "headache" medicine. It is immaterial what caused the headache—eyes, stomach, kidney, or heart. Still the originator of the idea claims that his patients get their money's worth, which probably they do, except in cases of serious disease which go undiagnosed.

A recent discussion before the Philadelphia County Medical Society took up the question of charging rich patients more because they were rich. Dr. Taylor, taking the affirmative side of this question, said he felt that the medical man is regarded and regards himself too little from a commercial aspect. The medical man having no salary, except the occasional and always small one for teaching, cannot act the good Samaritan in all particulars or indefinitely, and ought therefore to be recognized as worthy of richly-merited emoluments. A certain value should be put upon the physician's services, which should be paid unless there are financial difficulties on the part of the patient. He thought that, clearly, no one could have it in his heart to charge a poor man the same fee which he would feel it right to charge a man whose duties were no more onerous than the cutting off of coupons. Reference was made to the story current some years ago of a fee of $25,000 charged by the two medical attendants of Mr. Mackey, the California millionaire, when he was shot and nearly died. It should be remembered that Mr. Mackey's wealth was almost limitless, greater than he could use by any amplification of the imagination, and he saw no reason why the sum should not have been considered moderate for clearly saving his life. On the contrary, the newspapers far and near commented upon it as robbery. The physicians replied that the public should realize that in a matter of this kind life had been in jeopardy, which by their efforts had been saved. It had been presumably worth saving, and probably it was worth $25,000. Reference was also made to a transfer of certain property, a portion of the large estate of Mr. Mackey, requiring a total expenditure of perhaps fifty to sixty hours of work by the lawyers during a space of about a year. In

this transaction the lawyers simply deducted their fee of $100,000, and no criticism was made. While he emphatically believed that the medical profession was not the place for practicing commercialism, yet if a man has attained a degree of authority and eminence which renders the public capable of recognizing that his opinion is of high worth, then he felt that his talent, labor, and maturity of judgment should be worth as much as the public is capable or willing to pay.

On the other hand, Dr. Roberts took what seemed to me to be the proper position when he said: "There is, it seems to me, only one just plan by which fees should be regulated. It is that the doctor should have an estimate of the value of his services fixed in his mind. The amount should be based on his experience and skill. It should not be so low as to coax away unjustly the patients of the younger and less experienced men of the profession. This fee should be lessened when the financial position of the patient would make its payment a serious burden. A well-to-do patient should pay the whole fee, which should be generous in order to recompense the doctor for his experience, education, and hazardous life. This fee, however, should not be increased because the services of the doctor are utilized by a very wealthy person, unless an unusual amount of time is given to the service, or additional responsibility is placed upon the physician by reason of the man's position. 'Make it up on a rich person,' or 'Charge him a big fee, because he is a millionaire' are admonitions not to be heeded by the true physician; but only by that healer of men's ills who is but 'lightly dipped in generous honesty and faint-hearted in integrity.' Such words may do for the motto of the man who is 'coueitous or craftie sekyng his owne lucre, before other mennes health, succour and comfort,' but not for the doctor who taketh 'the cure in the hande' for 'an honest and competent rewarde with a Godly affection to doe his diligence.' "

This is not only high moral teachings, but a good business policy as well. The rich resent being robbed as much as do the poor.

In conclusion I would say physicians should show more diligence in collecting their bills; the patient who gets a bill which the doctor never tries to collect gets a contempt for the man himself. And, again, try to collect your own accounts; a pleasant note or a pleasant call will do far more to get the money and keep the patient than sending collectors or placing accounts in lawyers' hands.

From time immemorial it has been the habit of physicians to

keep their accounts with their patients in special books prepared for them by medical publishers. Whenever these books have gotten into court they have excited the merriment of the judges on the bench. A well known judge in his adjudication upon a book presented by a physician as a claim against an estate disposed of it in the following witty manner: "It is scarcely necessary to add that the entries should be written in some known language, ancient or modern, that they can be translated into the vernacular of the country. The entries in the book of the claimant, however, were of a character which could be understood by nobody but himself. They consisted chiefly of hieroglyphics, which resembled more than anything else the signs of the zodiac in a nautical almanac, and would be even less intelligible than the latter to the ordinary reader. The claimant explained that they were meant to indicate in their proper order 'day visits' and 'night visits,' 'consulting visits' and 'visits at which surgical operatons were performed,' but he admitted that they did not note the price; that all-important feature of a contract being left an unknown quantity, probably for the reason that no symbol has yet been invented which will adequately express the differing values which physicians attach to their services. It indicates neither charge nor indebtedness, and cannot be considered as legitimate proof."

It is the common law of the land that in suits for indebtedness what the lawyers term "books of original entry" must be produced. In some regions this principle is doubtful as applied to persons in professional life, such as doctors and lawyers, but it is generally accepted by the courts throughout the country, so that it is well to know what is meant by a "book of original entry." According to one authority it should cover a daily entry at each visit with the name of each patient, a list of the medicines furnished, and the value of the work done. If there is anything in the service which takes it out of the ordinary character and calls for a special charge, this fact should appear in the entry.

Custus gives the following digested report gleaned from the various decisions of a "book of original entry:" Entries must show the items, the date, the name of the person to be charged, character, quantity, and value of work done, or of delivered goods, for such a person; it should be done in writing by the person engaged in the profession or by his authorized agent, in his regular account book in the regular course and line of his particular business, at or near the time of the transaction referred to, with the intent to charge the person named, *so that these entries fully explain themselves* and on their face appear to create a liability against the person named. These entries are

admissible as evidence in suit between the parties on being verified by the person who made them, or in case of his absence or death, on proof of his handwriting.

Such a book is valuable in many ways; for a copy of the book verified by oath can be filed in a suit to recover compensation for services, throws the burden of proof on the defendant, and unless he can set up a legal defense, judgment can be entered against him. Or if he can set up such a defense, it still puts the burden of proof upon him in the subsequent trial. In suits against decedents it enables the claimant to testify that he has kept the book when ordinarily he could not testify, the other party to suit being dead, and again throws the burden of proof upon the estate; the book is of equal value in the case of the death of the physician who kept it to show the value of his services and the amount due therefor against those who may be living or those who may be dead.

The physician should keep as well a ledger and cash-book for his convenience and accuracy. How many of the physicians who may read this little article are fulfilling the requirements of the law? We fear not many.

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## REPORT OF A CASE OF FRACTURE OF THE INTERNAL TABLE WITH LACERATION AND CONTUSION OF THE TEMPORAL AND SPHENOIDAL LOBES.*

BY WM. G. STEARNS, M.D., CHICAGO.

The patient whose injury forms the subject of this report was admitted to the Samaritan Hospital. Dr. W. Hoyt gave the following report of his condition upon admission:

A very large, well developed, and well nourished man about forty years of age, said to have been thrown backward from a cable car, striking his head on the pavement. Patient was prostrated, semiconscious, easily aroused, and talked connectedly, recognized friends, but had no knowledge of the accident.

Head injury: Scalp cut one-half inch below junction of occipital and parietal bones in direct line with the sagittal suture, exposing the torn epicranium. There was no depression or fracture of the external table of the skull at this point.

Eyes: Pupils reacted equally but sluggishly. The left pupil was a trifle more contracted than the right, and after twelve hours was a trifle more sluggish. No strabismus nor nystagmus; no injection of conjunctivæ until twelve hours had passed.

*Read before the Chicago Academy of Medicine, Oct. 11, 1901.

No loss of power in limbs. Superficial and deep reflexes normal throughout.

Urine contained neither albumin nor blood, and had a specific gravity of 1020.

Temperature 96.4°; pulse 94; respiration 28.

Intense pain in frontal region from time of injury. Persistent vomiting continued for forty-eight hours, when he was removed from the hospital.

Fourteen days after the injury he was received at Oakwood Sanitarium, at Lake Geneva, Wisconsin, for nervous and mental diseases. Dr. E. H. Pomeroy, the superintendent of the Sanitarium, gave the following history, obtained from the patient's friends on admission and the clinical record:

The patient lay in a dazed but semiconscious state for about one week following the injury; he responded to the calls of nature normally; often complained of severe headache. Pulse about 60; temperature usually normal, never over 100° F. As he regained consciousness some aphasia and amnesia was evident. Irrational speech and irritability gradually increasing developed. No evidence of cerebral pressure was found. Took liquid food freely after the first few days. Ice was applied to head for several days, and laxatives and bromides were administered.

On admission to the Sanitarium he was extremely restless, with grandiose speech and ideas. He insisted upon attending to business by telephone. He was irritable, emotional, confused, and memory for recent events was markedly impaired. Answers were not relevant until questions were several times repeated. After studying a prescription blank carefully he said that it had been given him by his physician in Chicago, and insisted on going out to get it filled.

His gait was slightly reeling and uncertain, especially upon turning; only very slight swaying in Romberg's position or in walking with eyes closed. Reflexes normal; strength good and equal on the two sides; handwriting showed frequent substitution of letters, but no tremor. Speech somewhat slurred. The urine was practically normal.

This condition continued until the evening of the 25th, when upon being given a mild hypnotic he fell asleep, sleeping quietly until 5.30 A.M. September 26. Half an hour or so later he was found dead, lying on his left side, with the left leg and thigh semiflexed; left elbow, wrist, and fingers also flexed.

The patient having sustained an injury said to have been caused by being thrown in some manner from a street-car, and carrying both accident and life insurance policies for large amounts, the cause or causes of death from a forensic point of

view became important, so that Honorable P. H. O'Donnell summoned Dr. Kiernan and myself to make an autopsy and report as to the medicolegal phases of the case.

Upon necropsy the thoracic and abdominal cavities and their contents were found to be normal. The remains of an old contusion and laceration of the scalp in the occipital region was found. The skull externally showed no evidence of fracture. Upon removing the calvarium the skull throughout was found to be markedly thin, but not pathologically so.

Dura free from skull. No extra-dural hemorrhage, but a slight degree of congestion was noted over the tip of the left frontal lobe. Upon section and reflection of the dura, a thin, partially organized clot was found loosely adherent to its inner surface over the convexity of the left frontal lobe and extending downward anteriorly. Upon removing the brain this clot was found to extend downward covering the entire left middle fossa, and to be from one-eighth to three-sixteenths of an inch thick in its thickest portions. A similar clot was found covering the floor of the left middle fossa, and another covering the upper surface of the left tentorium. Slight mottlings of similar but much thinner clots were found in the right middle and anterior fossæ, and a few were also found in the posterior fossæ. The cerebrospinal fluid was moderate in amount and bloody.

The pia was slightly opaque over the convexity and the median portion of the basal surface. It stripped freely except over areas of softening, where is was adherent. The basal arteries and the cranial nerves were normal.

The cortex presented an area of softening on the anterior tip of each frontal lobe, extending backward along the basal surface, including that portion adjacent to the longitudinal sulcus, the lesion being deeper and more extensive in the left lobe; also an area of softening along the anterior portion of the basal surface of each of the temporosphenoidal lobes. Convolutions deep and otherwise normal.

The fluid of the ventricles was under but slight pressure and was blood-stained. Ependyma normal throughout. All fiber tracts, basal ganglia, cerebellum, pons, and medulla normal.

On stripping the dura from the base of the skull there was found a linear fracture of the inner table beginning at a point one-half inch to the left of the median line about two and one-half inches above the torcula (corresponding to the contused portion of the scalp), extending downward and to the right, crossing the median line at a point midway between the torcula and the foramen magnum, terminating in the foramen magnum just to the right of the median line. A second linear fracture,

also of the internal table, joined the first at an acute angle at its upper extremity, coursing to the left at first in the line of the lambdoid suture, then going below it and passing just above the base of the petrous portion of the temporal bone, terminating at about the middle of the outer surface of the temporal fossa.

In contusion or laceration of the brain the symptoms that are apparently uninfluenced by the location of the lesion are the peculiarities of pulse, temperature, and respiration, the variations of the pupils, the loss of consciousness, stupor, and delirium. The only symptom in this case indicative of the seat of the lesion was the speech disorder, which pointed with definiteness to a lesion of the left frontal lobe.

Phelps gives a series of cases in which frontal laceration was confined to the left lobe, in which there was mental aberration or deficiency, apart from mere stupor or delirium, in every one; while in a series of seven cases in which the location was confined to the right lobe, mental aberration was observed in none. Out of a series of fifty-eight pistol-shot wounds of the frontal lobes, twenty-six were limited to the right lobe, and not one manifested at any time any symptom of mental or emotional disturbance. In thirty-two cases of this series the ball traversed the left frontal lobe, and where it was possible to determine the mental condition, and where a complete history could be obtained (thirteen in all), in every one manifestations of mental derangement were distinctly evident.

In 325 necropsies in which mental derangement or deficiency showed prior to death, in all but four there was a lesion of the left frontal lobe. In two of these exceptional cases the left frontal lobe was included in a general lesion of excessive severity. In one there was a limited lesion, not a wound, of that lobe, and in the other case insanity had existed prior to the injury.

The attitude of the body when found after death was suggestive of death occurring in convulsions. In a collection by Phelps of fifty-eight cases of cerebral laceration in which occurred some form of disordered muscular function as a symptom, the lesion in fifty-one cases was essentially of the frontal or temporal lobes.

While extensive fracture of the internal table of the skull is often found together with a slight fracture of the external table, fracture of the internal table alone is rarely found, not perhaps because it is not common, but because results are not so often fatal, and when fatal, autopsies are not often held. Although it has been shown that the inner table is more friable, is commonly thinner, and is less elastic than the external table, in its fracture resulting from an impact upon the external table

there is no new factor or force acting that does not exist in the fracture of any of the flat or long bones.

That portion of the bone on the surface opposite to that which receives the impaction is first put upon tension, therefore first fractured, while the surface receiving the impaction is compressed until its foundation, the underlying medullary portion or the opposite portion, gives way to the strain and allows the stress to come upon it, when in turn it is fractured.

It is the external surface of a rib which receives an impact from a flat body, therefore the inner surface first placed upon strain is first fractured, and if force be not too severe this is the only portion fractured. Similarly, the external table receiving an impaction applied over a large area becomes compressed, not only beneath the area receiving the impaction, but the conical area supporting it, just as the weight resting upon a keystone is transmitted to each stone in its arch. If the force be sufficiently great the diploe upon which it rests, or the internal table, or both, must give way before the external table can.

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## CHOLECYSTOTOMY—SOME EXPERIMENTS WITH THE BILIARY FLOW.

BY ANGUS MC LEAN, M.D.,

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The operation of cholecystotomy is performed to relieve different diseased conditions of the gall-bladder and the ducts, namely, gall-stones, empyema, hydrops, and cholangitis. When the gall-bladder is opened for the removal of calculi and no other condition, it may be closed and allowed to fall back into its normal position and the abdominal wound closed; but when the operation is done for empyema, retained mucous secretions, or cholangitis, it should be attached to the aponeurosis and peritoneum of the abdominal wound and a drain inserted. In connection with the latter procedure I wish to report the following case:

Mr. H——, aged thirty-four, a molder, had been suffering from attacks of biliary colic for the past six years; these attacks would average eight or ten per year and last from one to three hours. They came on suddenly, and usually abated somewhat after he had vomited, not suddenly, but gradually, and the vomit usually contained a dark fluid which he thought was blood. He had never been jaundiced, and gave no history of typhoid fever

or rheumatism. He complained of pain on full inspiration, when pressure was made over the ninth costal cartilages. His trouble was diagnosed as cholecystitis, and an operation was decided upon. The incision was made in the left linea semilunaris, just below the costal cartilage. The gall-bladder was slightly distended and inflamed, and adhered to the surrounding tissues. It was brought into the opening, gauze packed around it, and the fundus incised; an ounce or so of thick, black bile escaped. No calculus could be detected in the cystic or common duct by palpa-

Drainage Tube in Gall Bladder. Taken Ten Days after Operation.

tion. The mucous membrane of bladder was thickened and eroded. The contents of the bladder were examined microscopically. Staphylococci and diplococci were found. The margins of the bladder wound were stitched to the abdominal opening and a rubber drainage tube inserted. A narrow strip of gauze was passed alongside of the rubber tube and the wound closed. He had no trouble or discomfort whatever, and the third day the gauze strip was removed and the rubber drainage

left in position; another rubber tube was attached to this by a glass connecting rod and the distal end attached to a glass tube of a receiving vessel, which was placed on the floor alongside of his bed. An accurate measurement of the bile excreted was kept.

The following observations were made: The amount of bile excreted in twenty-four hours; the hours when it flowed most freely; the effect of calomel on amount excreted; its flow immediately after eating; and its specific gravity.

The patient had his meals at 7.30 A.M., 12 M., and 5.30 P.M. The amount of bile excreted was measured at 7 A.M. and 9 P.M.; dividing the twenty-four hours into the time when gastric digestion should be most active and the quiescent period. The average amount excreted through the tube in the twenty-four hours was ten ounces; of this four ounces was excreted during the active gastric period, and six ounces during the quiescent.

Following is the average amounts excreted during each two hours of this period: From 9 to 11, ℥ij; 11 to 1, ℥iij; 1 to 3, ℥ij; 3 to 5, ℥ij; 5 to 7, ℥jss. At three different dates during this time he was given calomel and podophyllin, two grains of the former and one-half of the latter, divided into four different doses, and given at 7, 8, 9 and 10 P.M. This increased the flow during the following twenty-four hours by one-fifth the amount. The amount excreted after an evening meal of solid food was as follows: First two hours, ℥j; second two hours, ℥jss; third two hours, ℥ijss; fourth two hours, ℥j; with a gradual increase until 6 A.M.

The specific gravity averaged from 1010 to 1014; no difference in this was noticed when the calomel was taken. Most physiologists give the specific gravity from 1012 to 1040. The highest we observed was 1014, and this was after taking solid food; it was the lightest after taking fluid diet.

The bile is secreted from the blood, and taken to the liver by the portal vein; this important venous structure receives the blood from the stomach, spleen and pancreas, the small intestine, and large intestine. There is no time when the food or its products are not being acted upon by the above viscera, and the blood from them carried to the liver; hence the bile is being continually secreted. The food takes about three hours to pass through the stomach, and about twelve hours to pass through the small intestine. It appears from the above observations that the greatest efforts to have the bile stored in the gall-bladder are made when the products of digestion have passed down into the lower portion of the small intestine.

The average gall-bladder contains from 8 to 10 drachms.

What becomes of the 4 or 4½ ounces that is excreted from 1 until 6 A.M? It must pass down into the intestines to take some part in digestion, or be expelled as an excretory product. If the gall-bladder will store only one-fifth or one-sixth of the amount that is offered it, it can safely be removed.

During the ten days this tube was kept in the gall-bladder, over three quarts of bile was withdrawn, and it did not appear to have the least effect upon the patient. He had no pain or distress; digestion was perfect, he was always anxious for his meals, and the stools appeared natural.

From the foregoing the following deductions may be drawn:

That the greatest amount of bile passes into the gall-bladder during the quiescent period—that is, from 1 to 6 A.M.

That the administration of calomel and podophyllin will increase the flow.

That the first two hours after a meal only one drachm was passed into the gall-bladder.

That the specific gravity varied from 1010 to 1014; no difference was noticed after the calomel was administered, and it was highest after taking solid food.

That the gall-bladder will contain only a small percentage of the bile secreted during the quiescent period, and is not a necessary appendage.

That bile flows more freely into the gall-bladder the further down the small intestines the food products pass.

That the secretion of bile is continuous, and the entire amount secreted is not necessary for perfect health.

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THE recent report of the Rockefeller Institute's milk investigations has aroused, says *American Medicine,* the philanthropists of New York. Three hundred and thirty epidemics of typhoid fever, diphtheria, and scarlet fever have been traced to infection through the milk. During 1900 it is estimated that 6035 infants in New York City died from the effects of impure milk. The president of the Board of Health, Dr. Lederle, urges the education of the farmers in sanitation, while Mr. Straus wants to erect a large plant for Pasteurizing or sterilizing the entire milk supply. The physicians of the city are somewhat opposed to this scheme, since sterilized milk is the main cause of scurvy, while they all advocate instructing the dairymen in how to produce clean milk. This was also the conclusion reached by the Milk Commission of the New York Academy of Medicine.

# THE MEDICAL AGE.

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EDITED BY FREDERICK W. MANN, M.D.

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## EDITORIAL ARTICLES.

### TREATMENT OF MORPHINE POISONING.

It should always be remembered that morphine poisoning is a transient condition, that no anatomic lesion is produced, that no part of the body is destroyed, that no nervous energy is wasted by violent stimulation, but that death occurs from paralysis of vital processes, especially oxygenation, and hence from failure of body heat. Recent experiments on dogs, published by Dr. Edward T. Reichert, of Philadelphia, in the *Philadelphia Medical Journal,* emphasize in a peculiar degree the importance of the last factor. While the lower animals are resistant to morphine to a much greater degree than human beings, doses of morphine so much less than the minimum lethal dose as to be considered almost medicinal exert a marked influence on metabolism. We were long ago surprised to find that a dose of morphine sufficient to have killed a human adult was ignored by cats for which we were seeking euthanasia, and Dr. Reichert states that the minimum fatal dose for dogs is from twenty-five to forty-five centigrammes per kilo of body weight. At the same time a dose of one centigramme per kilo would reduce the heat units produced to forty-two per cent of the normal, on the average, while the units of heat dissipation would be reduced only to 60. Thus there would result a diminution of rectal temperature of from half to more than one degree centigrade. When we reflect that a reduction of internal temperature of warm-blooded animals is almost necessarily fatal when it amounts to two degrees centigrade and is continued for any length of time, it is well worth considering whether Dr. Reichert has not struck the key-note of morphine poisoning instead of an accessory.

It is encouraging to realize that we have nothing to fear from the local action of morphine, and that recovery is certain if we can keep the patient in even a vegetative state of existence until the poison is eliminated; the period of danger is rarely over

twenty-four hours. On the other hand, such a thought loses its comfort if the patient dies, and it is all the greater incentive to prompt measures of treatment. Nor must our efforts be relaxed because the patient has not taken as much morphine as has been recovered from in some or many cases reported. Any person, not previously accustomed to this drug, who has taken three centigrammes or more of morphine at a single dose, or within a period of an hour or so, is in danger of death. The ten-per cent galenicals of opium contain rather more than one per cent of morphine, if the opium is up to the official requirements, so that a teaspoonful of laudanum or a similar preparation is always likely to constitute a fatal dose.

If possible, treatment should be prophylactic, in the sense of removing the poison before it has had time to produce constitutional effects of any magnitude. This means, practically, the evacuation of the stomach, and promptness is all the more necessary because the morphine is even more markedly and directly antidotal to emetic drugs than are the latter to the morphine. We recall a patient who objected to the use of the stomach-tube, but who consented to taking a test meal to be vomited for investigation. As a centigramme of apomorphine produced no result, irritation of the fauces and pharynx was practiced, but it was impossible to produce vomiting, or even gagging. One point should be borne in mind: if the stomach is full of food it is quite impossible to evacuate its contents through an ordinary stomach-tube, even of No. 11 size, with any degree of promptness and thoroughness, on account of the imperfect mastication of the average person.

If the morphine is once absorbed, treatment must be directed toward maintaining the vital phenomena and toward elimination. The latter includes practically only two details—occasional catheterization and repeated lavage. There is no chemic antidote to produce an absolutely insoluble compound, or one that is sufficiently insoluble for therapeutic purposes, unless we accept the statement that potassium permanganate fulfils this indication. We have used both potassium permanganate and hydrogen peroxide, but are unable to state positively as to their efficacy.

While the same drugs and methods that stimulate and maintain the consciousness of cerebral centers undoubtedly act analogously on the medulla and cord, physical fatigue should be carefully guarded against, and the time-honored practice of walking the patient for miles is dangerous. We recall a personal experience with a patient who died suddenly after being placed on a stretcher to be put to bed, respiration having spontaneously

gone on for an hour or two, so that it was supposed that the patient was in a safe condition. This patient had not been fatigued by walking or other means, and nothing had been left undone in the way of stimulation, but while the case leaves nothing to be regretted in the way of treatment, it contains a warning that death in opium poisoning may occasionally be essentially cardiac.

Faradization is an excellent means of stimulating brain centers, or flagellation may be used as a substitute if a battery is not at hand. Any such method should be employed at irregular intervals, to avoid a failure of reflex stimulation on account of habituation. Dr. Reichert emphasizes the value of faradism to stimulate metabolism, and while we are not prepared to limit the effects of morphine quite so closely to an effect on metabolism and heat production, it is significant that his experiments, undertaken with this idea, verify closely clinical experience and experimentation according to the accepted respiratory theory. Dr. Reichert, however, gives unusual credit to cocaine as a respiratory stimulant, and he explains the action of strychnine rather as a general stimulant of metabolism than of respiration—which is in accord with observation if not with general belief. Atropine he considers as of little value according to any theory, which is in accord with our personal observation, and strongly reminds one of the dictum of Dr. R. A. Witthaus, that atropine should most certainly be given if there was fear that the patient would die of contraction of the pupils, otherwise not.

Alcoholics, nitroglycerin, and similar paralyzants of smooth muscle, which may act as stimulants in emergent and brief conditions by removing an obstacle to the circulation, must not be used in any condition in which time is a factor. The sooner the profession grasps the idea that these drugs are depressants and not stimulants—except in the temporary, paradoxic manner mentioned—the more lives will be saved.

Heat is important, not only on account of its general stimulant action, but because of the special need of maintaining body temperature and of increasing metabolism. But, as ever in the care of unconscious or semi-unconscious patients, burning must be avoided.

Aside from the general weakening of all vital phenomena, it should be remembered that morphine poisoning is essentially carbon dioxide poisoning. The various means of stimulating respiration, both by drugs, by flagellation, by faradism, by tongue traction, by alternate application of heat and cold, should be tried. In desperate cases artificial respiration must be used, and Dr. Fell, of Buffalo, has during the last ten or fifteen years re-

ported a number of cases saved by his method of artificial respiration by a mask. In the absence of such a special apparatus, tracheal respiration, as employed at vivisections, should be instituted. There is a urethral cut-off which can be used as a valve, and an ordinary bicycle foot-pump may be substituted for the bellows. The usual capacity of these pumps is about 100 cubic centimeters, so that five strokes of the piston should be made for each respiration in an adult, and respirations should be kept up at the rate of twenty per minute. If respiration is fairly deep but infrequent, pure oxygen may be employed, and on account of the greater rapidity of osmosis when there is a marked difference between the opposed gases, one respiration of oxygen should be equivalent to rather more than five of air. On the other hand, if circulation is retarded and if there be a diminution of the oxygen-absorption of the red cell, oxygen assimilation would be retarded. However well external respiration is performed, there may be such a deficiency of internal respiration—that is, of this particular phase of anabolism—that all such means will fail. Fell's experience, however, seems to show that if external respiration can be kept up for twenty-four hours, life will be maintained and the effects of the poison will be recovered from. Surgeons frequently forget that the subject of an operation ought not to be exposed to chilling—the same negligence should not be shown in treating morphine poisoning. Finally, there is a comforting thought, should all means fail—that most patients who take an excess of morphine are of little value to society.

## EDITORIAL NOTES.

### Poisoning by Synthetic Therapeutic Agents.

A case of acute poisoning by sixty grains of acetanilid which had a fatal termination in eight days is reported in the December number of the *American Journal of Medical Sciences* by P. K. Brown. The occasional reporting of a case of this kind shows to what an extent the use of the recently introduced synthetic theraputic agents have been brought. The laity almost without exception have come to the conclusion that these agents may be used with impunity. Cases of chronic poisoning by these drugs are much more common than is generally supposed. The dangers of opium are now pretty generally known, and it becomes the duty of the medical men to warn their patients against the indiscriminate use of the coal-tar products, as it is hardly to be expected that any legislative action will ever be taken against drugs which seldom cause immediate death.

# ITEMS AND NOTES.

A SCHOOL for nursemaids has been established in Boston.

READING, Pennsylvania, is having an epidemic of diphtheria.

THE general health in Havana is at present considered excellent.

BUBONIC plague is said to be epidemic among the natives of the Fiji Islands.

AT the present time there are about 130,000 physicians in the United States.

THE extermination of rats has been prosecuted with great vigor in the Philippines.

SMALLPOX does not seem to decrease in Philadelphia, but its increase is not at all marked.

SCHOOLS for nurses are to be established in Cuba under the control of the department of charities.

THERE are at present one physician in the Senate and four physicians in the House of Representatives.

THE Central Sanitary Council of Tokio has resolved not to permit the practice of homeopathy in Japan.

AT St. Petersburg in May will be held the Seventh International Congress of the Red Cross Association.

OF the 656 students enrolled at the Johns Hopkins University, 267 are candidates for the degree of M.D.

PROFESSOR VIRCHOW, the eminent pathologist, who was injured while alighting from a street-car some time ago, is growing worse.

ON January 29 the New York legislature defeated the Brackett bill to regulate and legalize the practice of osteopathy in New York.

CANCER causes nearly five thousand deaths annually in London, according to the report of the medical officer of health for that city.

ON January 23 last the new lying-in hospital which J. Pierpont Morgan has built on Second Avenue in New York City was opened.

THE census statistics of the United States show that the proportion of deaths to population has decreased ten per cent in the past decade.

THE milk commissioner of New York has ordered that hereafter smooth-faced men only will be employed for milking cows and delivering milk.

IT is claimed that hydrophobia does not exist in Great Britain owing to the stringent rules of the Board of Agriculture ordering the muzzling of dogs.

MEDICAL INSPECTOR P. M. RIXEY, physician to the late President and Mrs. McKinley, has been appointed surgeon-general of the navy with the rank of rear admiral.

DR. H. P. GAYLORD, director of the New York State Cancer Laboratory of Buffalo, has been elected a foreign member of the German Cancer Investigation Committee.

THE women students to whom the doors of the Northwestern University Medical School were opened have been admitted to full privileges in Rush Medical College.

SENATOR PLATT has introduced a bill into Congress for the establishment of a home for lepers in the United States. A location will be selected in a warm, dry climate.

ACCORDING to a newly discovered Chinese manuscript, a simple decoction of hemp was used in China over a thousand years ago as an anesthetic in surgical operations.

THE corner-stone of the new Children's Hospital at Philadelphia was laid February 1. The building will be opened for the reception of children during the summer.

A COMMITTEE of Russian medical men is said to have been organized to test the conclusions of Professor Polotebnoff, who denies that leprosy is contagious after a prolonged special research on the subject.

THE Paris Academy of Medicine has awarded to Dr. Melanie Lipinski, of Warsaw, the Hugo prize of $200 for the best work on the history of medicine appearing in the French language, during the past five years.

DR. T. EDWARD HAYES, surgeon-major of the Siamese navy for the past thirteen years, and formerly of Baltimore, has had the Royal Order of the White Elephant bestowed upon him by the King of Siam in person.

THE druggists of Philadelphia have organized for the incorporation of a stock company, capitalized at one-half million dollars, to own and manage retail drug stores. They expect to ultimately control two hundred stores in the city and State.

SURRA, the disease caused by the parasite trypanosoma evansi, which affects mules, horses, and camels, is reported, says an exchange, as having invaded the Philippines and making great havoc among the horses and mules. In Manila alone the quartermaster's department has lost three hundred horses within four months. The disease was at first diagnosed as glanders.

THE Paris Academy of Medicine, says an exchange, has published the results obtained in fifty cases of scarlet fever treated with scarlet fever serum during the past year. Of the thirty children treated, twenty-nine were cured; of the twenty adults, eleven were cured. But the reports say the results were not conclusive, as the usual therapeutics were followed conjointly in each case. The serum treatment consists in injecting into the patient an extremely small quantity of blood taken from a person who is recovering.

THE president of the Republic of Nicaragua, as a recognition of the services rendered by the American minister, William Lawrence Merry, in the interests of the construction of the Isthmian canal through Nicaraguan territory, has ceded, says *American Medicine,* to the United States land on the Island of Ometepe equal in area to one hundred city lots. This land will be known as Mount Merry, and will be devoted exclusively to hospital purposes. The gift becomes effective so soon as work is started upon the canal.

ACCORDING to an exchange the study of Prussian vital satistics recently published seems to show a relation of some sort between divorce, insanity, and suicide. Out of a million persons, 348 divorced women committed suicide as compared with sixty-one married women. Three hundred and eighty-six married men committed suicide as compared with 2834 divorced ones. In the insane asylums in Württemberg a similar study shows 3024 persons who have been divorced as compared with 283 married persons, 460 bachelors and maids, and 672 widows and widowers.

AN autopsy made at the Johns Hopkins Hospital recently upon the body of a negro who died after a stroke of paralysis showed, according to the *Philadelphia Medical Journal,* the transposition of the man's internal organs. The heart was entirely on the right side of the median line; the liver was mostly on the left;

the spleen was transposed to a spot several inches from its normal position; while the kidneys had changed places. The stomach was far out of its natural position. This transposition of viscera was probably congenital, and may indirectly have caused death by superinducing hemiplegia.

A MISSION which deals with over 2000 cases every year, has a finely equipped hospital steamer, and has built two hospitals on the Labrador shore, is erecting, according to an eastern contemporary, a third hospital in northern Newfoundland. All the medical attention received by the people along these coasts is given by the physicians belonging to the mission. There are so few physicians, however, in comparison to the vast territory to be covered, that many requiring it do not receive sufficient medical attention. Among the natives sanitation is totally disregarded, and isolation for contagious diseases is practically unknown. In making a tour of the coast the physicians found cases of poisoned wounds, eye diseases, dangerous digestive troubles, scurvy, cancer, and tuberculosis that had never known medical treatment. Besides the medical work the mission has been instrumental in establishing coöperative stores, providing work, finding homes for orphans, and relieving many cases of destitution.

UNDER the name of "muscle-bed," says *American Medicine,* a device has been invented by Dr. William Anderson, of the Yale gymnasium, for testing in the horizontal human body the distribution of the blood-supply under the effect of thought and exercise, and of ascertaining the center of gravity. This apparatus rests on very accurately made knife edges, and is sensitive to the slightest pressure; it is furnished with levels, graduated scales, and indicator for recording. A body perfectly balanced on the sensitive knife edges of the muscle-bed will be affected by additional weight on either side of the point of equilibrium, causing the head to settle if the flow of blood is in that direction, or the feet to lower if the flow is toward them. In the case of a subject balanced on the muscle-bed who was told to answer some question requiring thought, although not a muscle was moved the rush of blood to the head caused by the mental effort created a change of the center of gravity.

THE Department of Public Safety, of Philadelphia, has decided, says *American Medicine,* to enforce vaccination on all inmates of cheap lodging-houses. This is done with a view of reaching the vagrants and transients who are suspected of being a means of disseminating smallpox. To carry out this order

effectually the Board of Health sent its corps of physicians at night, under police protection, to the various cheap lodging-houses along the Delaware River front. About one hundred sailors and laborers were vaccinated; many of these raised strenuous objections, but were restrained from forcible resistance by the proximity of the police. This attempt proved so successful that the crusade will be continued along the same lines. It is reported that the special corps of vaccine physicians who are making a house-to-house canvass have vaccinated about 200,000 persons. A circular advising vaccination and disinfection will be sent to every house within a radius of one square of any house that contains a case of smallpox. Circulars have been sent to all banks, business houses, etc., requesting that all moneys be thoroughly disinfected.

Dr. J. D. Coakley, of Chicago, is now engaged in establishing an exclusive association to be formed only of those physicians and surgeons who have made original and extensive investigations which have added much to scientific knowledge. While essentially American, membership will be drawn from all parts of the world. Dr. Coakley, who has just returned from Europe, has given the names of a number of foreign medical men interested in the association. Among these are Dr. Renvers of Berlin, Dr. Hallion of Paris, and Drs. Starling and Foster of London. All applicants for membership must be at least twenty-five years old, graduates of a school of medicine and surgery recognized by the International Medical Association, and affidavits must be presented to show the originality of work and the practical and satisfactory results of experiments. Members less than forty years old will be required to perform satisfactory experiments on living animals on such lines as will be in harmony with their particular line of work. This must be continued each year for ten years, at the end of which time he may become an honorary member of the congress. Less work will be required of those more than forty years old. The different divisions of the congress will meet every year for the next five years with their respective national associations, and every three years with the International Medical Association, after which time the meeting place will be selected by a majority vote. The last clause of the by-laws states the object of the congress to be "the furthering of scientific research, honest work, and honest reports, all of which, it is to be hoped, will result in the further alleviation of suffering and the prolongation of life." Before any line of work will be accepted as complete, the investigator will be compelled to demonstrate his results before a committee, to be selected by the president of the congress.—*Philadelphia Medical Journal.*

# NEW PUBLICATIONS.

## MOSQUITO BRIGADES.

The problem of how to get rid of the mosquito is probably the most pressing one affecting the tropics. Now that it is known that malarial fever, yellow fever, and elephantiasis are inoculated into human beings by the bites of these pests, comfort and security in the tropics depend upon the measures adopted to rid ourselves of these insects. The name of Dr. Ross is so intimately associated with the discovery of the malarial mosquito that anything he suggests for protection against this danger will receive earnest consideration. In the present volume he enumerates very readably the best known means of prophylaxis. He tells how to organize mosquito brigades from the first steps to the last stages of the campaign. Every sanitary officer should have this book and take to heart the lessons it imparts.

Mosquito Brigades and How to Organize Them. By Ronald Ross, F.R.C.S., D.P.H., F.R.S. Published by Longmans, Green & Co., New York, and George Philip & Son, London, England.

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## THE POCKET GRAY.

This is the fifth edition of this well known manual for the anatomist. It is, as most readers are well aware, an accurate and complete condensation of the larger Gray, and is designed to act as a vade-mecum for students in the anatomical laboratory. There is nothing better of its kind, and it will continue to enjoy the result of its wide-spread reputation.

The Pocket Gray, or Anatomist's Vade-Mecum. By the late Edward Cotterell, F.R.C.S. Fifth Edition. Revised and Edited by C. H. Fagge, M.B., M.S. Lond., F.R.C.S. New York: William Wood & Co.

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## VENEREAL AND SEXUAL DISEASES.

The present volume is one of the Standard Monograph series, and is a brief epitome of the leading facts connected with venereal and sexual diseases. The book is written from a practical standpoint, and will be useful to the general practitioner.

A Manual of Venereal and Sexual Diseases. By Wm. A. Hackett, M.B., Ph.G., M.C.P.S. (Ont.), and N. E. Aronstam, M.D., Ph.G. Chicago: G. P. Engelhard & Co.

# THE PROGRESS OF MEDICAL SCIENCE.

## SURGERY.

### The Cause and Significance of Phantom Tumors.

Sir Wm. H. Bennett (*Lancet,* Jan. 4, 1902) says that the causes of these tumors may be classified in the following way:

1. *Irritation.*—(*a*) Irritation of the skin or of other superficial parts either immediately over the muscle or muscles concerned or over the course of the nerves which supply them; (*b*) the existence of underlying disease or abnormality—for an example, supposing the tumor to be in the abdominal wall, some disease in the abdominal cavity which, by reason of its situation or relation, causes nerve irritation leading to contraction of a corresponding muscular area (such tumors, when occurring immediately over the underlying disease, are usually "protected").

2. *Occupation.*—In a certain number of cases in which the occupation of the individual entails the use of a particular muscle or group of muscles for a long period continuously the muscles concerned come, as it were, into permanent action, and remain hard and enlarged, although the occupation has been temporarily discontinued. These are "occupation" phantoms.

3. *Imitation.*—In a certain type of neurotic people the tendency to imitate the diseases or deformities of others is very strong. "Nervous mimicry of disease" was the admirable term applied to these cases by Sir James Paget. The nervous mimicry of hip-disease is, perhaps, one of the commonest examples with which we meet of this curious tendency. Tumors are sometimes imitated in the same way, although the scope for the deception is necessarily very limited. These are "imitative phantoms."

As to treatment the writer says that the obvious indication in the irritation phantoms is to cure or to remove the source of irritation, if it has been discovered. In the occupation phantoms rest from the usual occupation as a rule gives temporary relief only; a change of occupation is nearly always necessary. When these tumors are persistent even after a change of occupation the discriminating use of electricity with massage is of much advantage. The imitative phantom is generally of little real consequence; the only treatment is the removal of the patient from association with the person imitated, the existence of the spurious tumors being entirely ignored. Galvanism vigorously applied may be a useful adjunct when the results of the condition are sufficiently serious to make methodical treatment necessary.

Some interesting phantom tumors are prone to result from the rather exaggerated physical exercises now in vogue; they hardly, however, come within the scope of the present paper.

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## New Method of Anchoring the Kidney.

B. B. Davis (*Medical Review of Reviews*, Jan. 25, 1902) describes a new method for anchoring the kidney. This method, says the author, can best be explained by giving a report of the only operation done. A. J——, unmarried, female, aged twenty-one years, had frequent gastric crises and a good deal of constant lumbar pain, on the right side especially. Had lost twenty-five pounds in weight during last year, and was very anxious for relief. On examination the right kidney was found freely movable, falling so low that the upper pole could be felt on bimanual examination. The left kidney was also somewhat movable. Patient entered hospital November 9, 1901, for operation on right side. Incision extended from the lower rib to near the crest of the ilium, a hand's breadth to the right of the spinous processes of the vertebra. The fatty capsule was reached just anterior to the outer border of the quadratus lumborum, was opened, and a large part taken away. The kidney was pushed into place by a pad placed under the abdomen. When the kidney was well exposed, an incision was made through the proper capsule, from one process below the upper pole to a point two centimeters above the lower pole. This incision was placed vertically on the posterior surface on the convex border. The capsule was stripped loose from the kidney substance from a distance of three-quarters of an inch anteriorly and posteriorly to the incision of the capsule. From the upper and lower extremities to the vertical incision a perpendicular incision two-thirds of an inch long was made through the capsule, thus giving two flaps of the capsule three-quarters of an inch wide by about two and one-half inches long. Next, a strip, the thickness of one's little finger, of the other border of the quadratus lumborum muscle was split off from the remainder of the muscle, the fibers being separated by the handle of the scalpel. This operation extended from the muscular attachments to the twelfth rib downward for two and one-half inches, or the slit in the muscle was made as long as the length of the capsular flaps before described.

Next, an artery forceps was passed through the slit, and the muscle made to grasp the free border of the posterior flap of the

kidney capsule and then withdrawn, bringing the flap of the kidney capsule through the slit in the muscle. The two capsular flaps were next brought together over the bundle of muscular fibers, thus isolated from the border of the quadratus lumborum, and stitched together with a running suture of fine chromic catgut, the needle being allowed to penetrate the muscular bundle at two or three places. The lumbar wound was next closed by tier sutures of catgut, the skin wound being closed with horsehair. Aside from a slight infection the wound did well. The patient was allowed up on the twenty-second day.

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## Lumbar Puncture as a Means of Diagnosis in Fracture of the Base of the Skull.

At a recent meeting of the Paris Surgical Society M. Poirier (*Lancet*, Dec. 21, 1901) related the case of a patient who had been admitted to hospital under his care on September 16 suffering from the sequelæ of a fall on the nape of the neck. He complained of pains in the head and of constant vomiting and had a wound of the skin in the occipital region. His temperature was 37.2° C. and his pulse was 110. On the day after admission he became semicomatose, and at times gave the hydrocephalic cry, but no paralysis was present. Cerebral meningitis was suspected. The interne of the ward performed lumbar puncture and a jet of cerebrospinal fluid tinged with blood spurted out. Between 30 and 40 grammes of fluid were drawn off. This slight operation had a prompt and astonishing effect. Within a few hours the coma, the vomiting, and the headache had disappeared, and on the following day (the fourth since the accident) the patient talked about leaving the hospital. He continued to improve, and as if to confirm the diagnosis, paralysis of the right internal rectus and conjunctival ecchymoses developed in each eye. He left the hospital, although advised not to do so, on the eleventh day, and was not seen again.

In this case the diagnosis was cleared up by the result of the lumbar puncture, and, moreover, the evacuation of the fluid seemed to have a remarkably beneficial effect. M. Rochard cited a case, that of a child with severe cranial injuries, in whom he had brought about rapid and marked relief by the withdrawal of 20 cubic centimeters of cerebrospinal fluid. He also mentioned another case of fracture of the skull in which he performed lumbar puncture for the relief of persistent headache fifteen days after the accident, with marked relief. M. Tuffier remarked that he had

already drawn the attention of the society to the value of lumbar puncture in fractures of the skull as a means both of diagnosis and treatment. He thought that the fluid should be collected in three separate tubes so as to make certain that the red color was that of the fluid itself and did not come from puncture of a spinal vein. The cerebrospinal fluid might vary from a bright red to pink or yellow and contain no red corpuscles.

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### Case of Resection of Two-thirds of the Liver for Angio-adenoma.

Carl Beck (*Chicago Medical Recorder*) describes the case of a young man, twenty years of age, suffering from a tumor in the left epigastrium, which was of the size of a man's head. It was movable to a certain degree, solid, somewhat irregular, and not especially tender, and by percussion was found to extend into the liver. The diagnosis was between tumor of the kidney, pancreas, omentum, or stomach. But when the abdomen was opened, the tumor was found to be continuous with the liver, taking in entirely the left side of the liver, the right lobe being extremely small; with some difficulty half of the tumor was removed, the other half being left to slough off. The after-treatment consisted in removing the sloughing portions gradually until there was nothing left but a small pedicle. From all spaces of the sloughing tissue there escaped bile for two or three weeks. The patient made a good recovery, and the right portion of his liver is enlarging, so that it may yet give him good hepatic function. The tumor was found to be an angioadenoma. The prognosis as regards recurrence is favorable, neither adenoma nor angioma being tumors that recur, as a rule.

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### Some Indications for Gastroenterostomy.

W. J. Mayo (*International Journal of Surgery,* February, 1902) bases this paper on experience derived from sixty-four operations. In malignant disease gastroenterostomy is indicated only if symptoms of obstruction are present. The mortality is high—twenty-five to thirty per cent. The writer lost four out of sixteen cases. The reason for this mortality lies in the bad condition of the patient. The early cases in good condition need radical treatment, and the later operation (pylorectomy, etc.) on this account has an even lower mortality than gastroenterostomy, which has no such limitations.

For open ulcer gastroenterostomy is of the greatest benefit if the ulcer is situated near the pylorus, and it usually is. Under such circumstances the stomach is of normal or increased size, the latter condition due either to obstruction or pyloric spasm. If the ulcer be distant from the pylorus and the stomach contracted, gastroenterostomy has less value, and the anastomotic opening may close, although the ulcer is usually healed before this takes place. The writer has had thirteen gastroenterostomies for open intractable ulcer with one death.

For benign obstruction, without regard to origin, gastroenterostomy is the operation of choice, the cure being immediate and lasting. Pyloroplasty enlarges the outlet, but if the stomach is very large and pouched, the degenerated muscle fiber may fail to elevate the food to the pylorus and relief is not always afforded. Gastroenterostomy drains from the lowest point and is superior in every way to the plastic operation. In thirty-five gastroenterostomies of this class only one died.

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### Mastitis in Typhoid Fever.

Thos. McCrae (*Johns Hopkins Bulletin*, January, 1902) says that mastitis is a rare complication of typhoid fever, and usually occurs late in the attack. It occurs in both sexes, and is apparently not associated with a functionating gland. Both breasts are involved in about half the cases. Suppuration occurs in about half of the cases and may be associated with the typhoid bacillus or staphylococcus. It is of no special moment in prognosis.

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### The Etiology and Morbid Anatomy of Tuberculous Meningitis.

E. Cautley (*Lancet*, Dec. 21, 1901) divides cases of tuberculous meningitis into three groups: (1) Simple tuberculous meningitis, in which the disease is limited to the brain (very rare); (2) tuberculous meningitis, secondary to a localized tuberculosis with little dissemination (the child dies from the meningitis); and (3) general miliary tuberculosis—cases in which the meningeal symptoms bear a comparatively unimportant relationship to the disease.

The writer says that he is strongly convinced that inheritance means exposure to infection of a weakly or predisposed child; that injury is very rarely an exciting or predisposing cause; that

the respiratory tract is the great channel of infection; that the alimentary tract is rarely primarily infected; that cow's milk is very rarely, if ever, the source of infection; that the limitation of the tuberculous process to the meninges is very rare; that the prognosis is very hopeless on account of the extent of the tuberculous disease elsewhere; and that operative treatment may be discarded as experimental rather than useful.

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## MEDICINE.

### The Food Factor as a Cause of Health and Disease During Childhood, or the Adaptation of Food to the Necessities of the Growing Organism.

Nature, or to be specific, chemistry, physiology, and chemical physiology, have furnished, according to J. E. Winters (*Medical Record,* Jan. 25, 1902), unerring guides for the feeding of children.

The time when and what farinaceous substances should be given is wholly evident.

Meat juice is contraindicated in very young children, owing to its exciting effect on the nervous centers, and the loading of the system with extractives which tax the excretory organs.

During all the years of early childhood, meat and its preparations should be given only sparingly on account of their overstimulating metabolism, but chiefly for the reason that they create a distaste for cereals, fats, and fresh vegetables, thus depriving the system of materials needed to shield the proteids from oxidation that they may be stored for future needs, and of the necessary mineral salts which vegetables obtain direct from the soil.

In a child, with its relatively large cutaneous surface and correspondingly rapid heat loss, the large demand for calories must not be covered by proteid to any considerable extent, otherwise there is a lack of deposition of proteid, or of muscle growth. Increasing quantities of carbohydrates and fats in the food decrease proteid metabolism; a more lasting deposition of proteids for future needs is thus brought about.

To provide the mineral constituents necessary to maintain the normal reaction of the fluids of the body when these elements are being appropriated in large proportions for the growth of bone, muscle, etc., vegetables which obtain these elements direct from the soil must be consumed in fairly liberal proportions.

### Three Cases of Complete Recovery from Epilepsy.

Turnowsky, of Marosvasarhely (*Wien. Med. Woch.*, No. 35, 1901), reports three interesting cases of recovery following infectious diseases. The first patient had a bad family history, and after his sixteenth year was afflicted with typical epileptic attacks which no remedy could control. When twenty-four years old he had a double croupous pneumonia, and since then (now fourteen years) he has been free from fits. The second case had chorea from her eighth to seventeenth year. She married at eighteen, and after an abortion had a great many epileptic fits. At twenty-four she had right-sided pneumonia, and has not had a single fit since (now over ten years). The third case, a boy who since his infancy had epileptic fits and was somewhat idiotic, contracted scarlet fever in his sixth year, and since then (six years) he has had no attacks, is healthy, and is making slow progress in mental development.

These observations bring to mind that under certain circumstances an epidemic of mild character may play some part in the curing of epileptics.

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### Alcoholism and Crime: How Should We Deal with the Criminal Alcoholic?

H. Stern (*American Medicine*, Feb. 1, 1902) says that judges of criminals, prison wardens, and the police unanimously concede that at least seventy per cent of all perpetrated crimes are directly or indirectly attributable to alcoholism. Alcohol habitually used principally affects the brain and nervous system, which lose their normal degree of resistance, their vitality and healthy activity are reduced, and a general deterioration of brain and nerve substance is the inevitable result. More remote consequences are general retrogression of intellect, debased standard of morality, and complete or partial loss of will power.

Of all the pernicious effects of alcoholism, none is so deplorable as the fact that the offspring must suffer for the cravings of its parent. The degeneration of children of drunkards is a fact which is still more apparent when both parents have been habitual alcoholics. The habitual alcoholic, like the morphine habitué, and like certain types of the insane, lives in a world of his own. He has his delusions and hallucinations, and while subject to them he is unable to distinguish between right and wrong.

According to our present laws the habitual or periodic drunkard who has committed a slight offense, is imprisoned in a penitentiary or a workhouse, where he is in close proximity and con-

tact with criminals. Necessarily this must be detrimental to him who is so little capable of exerting self-determination. The alcoholic who was perhaps but an accidental offender may thus become an incorrigible criminal. Prison statistics prove that the more frequently an alcoholic is incarcerated the more incapable of reformation he becomes. If the purpose of punishment is prevention of crime, reformation of criminals, and the protection of society, then the prison is the wrong place for the inebriate offender.

The writer maintains that the general penitentiaries are no place for alcoholics, that they should be sent to an asylum or institution to serve out their sentence.

The criminal alcoholic who has spent his penal servitude, which should continue until he is cured, or if incurable, indefinitely, in an instituton of such a character, leaves it regenerated. With the newly acquired or regained energy and vigor, the former alcoholic is well equipped to start afresh in life—a healthy man, alive to the interests of home, community, and country, and a useful member of that society which to-day condemns him and considers him an outcast.

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### The Rapid Testing for Sugar with the Haine's and Purdy's Solutions.

W. H. German (*Journal of the American Medical Association,* Feb. 1, 1902) gives a quick but accurate method for testing urine quantitatively for sugar, the only apparatus required being a graduated test-tube and pipette, and a Bunsen burner or spirit lamp.

The writer says that when the presence of sugar in the urine has been determined, as by the Haine's test, fill the test-tube to the 12 cubic centimeter mark with Purdy's solution, and the pipette to the zero mark with the urine to be tested. Heat the test solution to boiling and add the urine drop by drop in the test-tube, boiling for a few seconds after the addition of each drop, until the blue color has entirely disappeared, trying to decolorize with the smallest possible quantity of urine. If less than 0.2 cubic centimeter of the urine is required to decolorize the test, the urine contains above four per cent of sugar, and should be diluted with an equal volume of water, and the results obtained multiplied by two. The subjoined table gives all ratios of reduction from one-half of one per cent up to four per cent, calculated to each quarter per cent, with corresponding grains per ounce.

After slight experience with this method, the time required to

make a complete qualitative and quantitative test need not exceed five minutes. This method has been carefully compared with the standard methods of sugar testing, and results have been found fully equal to those obtained by the standard methods.

| Cc. urine. | Per cent. sugar. | Gr. per oz. |
|---|---|---|
| .2 | 4. | 19.2 |
| .225 | 3.75 | 18. |
| .25 | 3.5 | 16.8 |
| .275 | 3.25 | 15.6 |
| .3 | 3. | 14.4 |
| .325 | 2.75 | 13.2 |
| .35 | 2.5 | 12. |
| .375 | 2.25 | 10.8 |
| .4 | 2. | 9.6 |
| .5 | 1.75 | 8.4 |
| .6 | 1.5 | 7.2 |
| .7 | 1.25 | 6. |
| .8 | 1. | 4.8 |
| 1.2 | .75 | 3.6 |
| 1.6 | .5 | 2.4 |

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## Atrophy of the Mucous Membrane of the Stomach with Chronic Interstitial Nephritis.

Dr. Vierhuff (*St. Petersburg Med. Weekly*, No. 38, 1901) from observation states the following case:

A woman sixty years of age, who previously for fifteen years had suffered from calculi of the kidney, came for treatment for stomach trouble of one year's standing; she could bear only liquid food, vomited very often, etc.

The examination after a trial breakfast showed remnants of undigested food, lacking in free hydrochloric acid and pepsin; lacking also in waste products, indicating chronic nephritis.

The urine increasing in quantity with a specific gravity of 1009. But the patient died with signs of starvation. The autopsy revealed granulation, formation of calculi in both kidneys, with atrophy of the structures to such an extent that the boundaries and relations could not be differentiated. The mucous membrane was atrophied, thin, and almost free from folds; the walls of the stomach were thin as well. A microscopical examination showed atrophy of the mucosa and especially so of the glands.

Senile atrophy of the mucous membrane of the stomach is excluded; whereas the usual change of age in the mucous membrane in the organ was lacking, Vierhuff assumes from this that the toxic influx of the disturbed function of the kidney, as a consequence, has caused the change of the mucous membrane. In like manner ulcers of the mucous membrane of the intestines arise.

Possibly it is also the toxic influx that suppresses the secretion of free hydrochloric acid in cases of carcinoma, diabetes, anemia, and tuberculosis. The toxic action in all these cases extends not only over the mucous membrane, but also the blood.

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### Gastroptosis and Gastric Motor Insufficiency.

In cases showing symptoms of gastric motor insufficiency ptosis of the stomach is, according to J. D. Steele (*Philadelphia Medical Journal,* Jan. 25, 1902), never more common than changes in size or shape. In a series of fifty cases which came under the observation of the author he found that the ratio is as 40 to 34.

The commonest gross lesion found clinically was gastroptosis and pyloric dilatation, which occurred in forty-three per cent of the cases showing changes in size and position. The next in frequency was general dilatation alone (thirty-five per cent). Next comes gastroptosis alone (twenty per cent), and the least common is general dilatation and gastroptosis (ten per cent). However, the two sexes differ so in their relations to the condition that the above combined figures are of little value.

Gastroptosis is much more common in females. Thus, in sixteen women showing changes in size and position, gastroptosis occurred in all but one, or ninety-four per cent. All the cases of uncomplicated gastroptosis were women, and in but two could dilatation be considered the primary condition. This is in accordance with the figures of other observers, and can easily be explained when the etiology of the affection is considered.

In males general dilatation is more common, and occurred in all but three of the fifteen men showing changes in the shape and size of the stomach. Uncomplicated dilatation is much more common, and no case of gastroptosis alone was noted. Three cases showed gastroptosis and pyloric dilatation.

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### The Pathology of the Tissue Changes Caused by the Roentgen Rays.

C. Beck (*Medical Record,* February, 1902) says it might be assumed that if in chronic inflammatory processes constriction of the vessels takes place, the papillæ starve. A hair, extracted after prolonged irradiation, could be found altered in structure. Integumental specimens show thickening of the tunica intima of the

small blood vessels, a process tending to a narrowing of their caliber. Fibrous tissue is deposited in a reticular arrangement. The tunica muscularis and adventitia are affected in the same manner. The tissue change taking place in neoplasms is also of a similar type of chronic inflammation. The nutrition of their superficial strata is disturbed, the cells starve, and if over-irradiation is continued necrosis might result. It is easy, therefore, to understand the curative influence of the Roentgen rays on lupus, carcinoma, and sarcoma when confined to the integument. Reference was made to a case of lupus erythematosus in a woman of twenty-five, who was irradiated for twenty-five minutes every two days. It was not until the twentieth exposure that the redness decreased and some of the nodules began to shrink. Complete recovery was not expected for several weeks. In this work, it was well to have the vacuum tube as near to the diseased area as possible; it should certainly not be more than four inches away, and might even be placed as near as two inches.

## THERAPEUTICS.

### The Influence of Some of the Commoner Drugs upon the Gastric Functions.

Perfectly normal stomachs, according to Boardman Reed (*Journal of the American Medical Association*, Jan. 11, 1902), are probably in the minority in large cities, especially among persons employed indoors. In stomachs which are normal or approximately so, the digestion may be injured by a simple bitter tonic taken even for a short time. Quite moderate doses of HCl administered as a medicine may prove effective in hypochlorhydria, but are likely to do harm to normal stomachs and certain to aggravate hyperchlorhydria. Pepsin rarely produces any good result when given alone, even to persons with weak digestive power, and often then retards the digestion of albuminoids. Pepsin and HCl given together much more frequently do good than either administered singly.

### Cauterizing the Eyeball.

Vallin (*Medical Press*, Jan. 8, 1902) contributes a paper on the substitution of cauterizing the eyeball for enucleation in children. He says enucleation of the ocular globe in children is a

deplorable operation on account of the deformity which results, and which becomes more exaggerated as years advance. Except in the case of malignant tumors, recourse should be had to the method recommended by Dianoux, and which consists in practicing on the cornea, without however opening the anterior chamber, a cauterization in the form of a star with the point of a thermocautery maintained at a low red heat. That done, a circle is traced around the center of the cornea, and the disk thus circumscribed is pierced quickly in the center with the point of the thermocautery brought to a white heat so as to allow the aqueous humor to escape.

The wound is then powdered with bismuth, and a compressive bandage applied for three days. At the end of that time the bandage is removed and the parts washed with boiled water, and solution of cocaine and eserine instilled between the lids each day until the wound has cicatrized. After all irritation has disappeared massage is practiced for a few days, and finally the cornea is tattooed.

In all the cases treated by this method the results were very satisfactory.

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### Goitre: Its Medical and Surgical Treatment.

At a recent meeting of the Medical Society of the State of New York, Dr. M. J. Levi (*Medical Record*, Feb. 1, 1902) presented a paper under this title. He said that he had treated forty-seven cases of goitre. In the use of electricity, whatever success was achieved was in the parenchymatous, hemorrhagic, and exophthalmic forms of goitre. Iodine, applied externally in the form of the tincture, was comparatively useless, and if employed at all it should be internally. Much could be said both for and against parenchymatous injections of iodine. In many instances death had followed such injections. In no case should such an injection be given until the part had been rendered surgically clean. After the injection, the site of the puncture should be immediately painted with iodoform collodion. His results had been more satisfactory with a mixture composed of equal parts of tincture of iodine and a 5-per-cent solution of carbolic acid. From ten to thirty minims of this mixture should be injected once a week, each time in a different place. There was much less pain after the injection of this mixture than where iodine alone was used. Galvano-puncture was useful in parenchymatous goitres, but in the cystic form both electricity and drugs were useless. Such cases should be treated surgically, and in this connection it

was reassuring to recall the fact that Professor Kocher had operated upon 2000 cases, many of them exophthalmic or malignant, with only one per cent mortality. The chief surgical procedures included ligature of the thyroid arteries, division or resection of the thyroid isthmus, and partial or complete excision. Professor Kocher employed local anesthesia in all cases. This was advantageous because the patient was apt to suffer from dyspnea during the operation, and if by chance the recurrent laryngeal nerve were included in the ligature, the change in the patient's voice would indicate to the surgeon what had happened. Another advantage was the absence of nausea and vomiting which in such cases might interfere with the healing process.

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## RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

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### Nasal Disease in its Relation to Affections Lower Down in the Respiratory Tract.

Before the last annual meeting of the British Laryngological, Rhinological and Otological Association (*Journal of Laryngology*, vol. xvi, No. 12) the retiring president, Mr. Mayo Collier, reported a case in which a chronic and severe asthma had been relieved by the removal of nasal polypi. The patient, an army officer, had for nineteen years suffered intermittently and severely from attacks of asthma. Latterly the attacks had been so frequent and prolonged as to quite incapacitate him for duty or continued exertion of any kind. In 1899 Mr. Collier found on examination that his nasal fossæ were filled with polypi. These were at once removed and the patient remained free from asthma for a period of thirteen months. He then suffered from pneumonia following influenza and the asthma returned associated with a chronic bronchial catarrh. This condition subsided some months ago and the patient has fully recovered his health and has been perfectly free from asthma for three months.

Mr. Nourse at the same session reported a case in which a small laryngeal growth disappeared after removal of polypi from both nasal fossæ. The growth was a small one just under the edge and in front of the middle of the left vocal cord. Both cords were reddened and their edges uneven. The polypi were chiefly in the posterior portion of the middle meatus of each side and were removed at different sittings from time to time. Ten

months later when the patient appeared at the clinic, the laryngeal growth, which meantime had not been interfered with, had entirely disappeared.

Sir Felix Semon in commenting on these cases during the discussion stated that these cases were confirmatory of the experience of himself and others, that a free breath-way caused by removal of obstruction in the supralaryngeal tract was a powerful safeguard against development of laryngeal irritation and laryngeal new formations.

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## OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

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### Aid to Diagnosis and Prognosis of Inflammation of Optic Nerve.

J. Hirschberg (*Berliner Klin. Woch.*, Nov. 25, 1901) says that in case of fresh inflammation of the optic nerve and consequent blindness, the pupil dilates to a remarkable extent when the sound eye is covered, and it does not contract when exposed to light. This pathological dilatation is an infallible sign of the complete blindness of the eye. When one eye is covered the pupil of the other eye becomes slightly dilated in normal conditions. This physiologic dilatation is about one millimeter for a pupil diameter of three to four millimeters. If it does not occur the blindness may be assumed to be feigned or due to hysteria. In the first stage the blindness occurs while the ophthalmoscope findings are negative. Then the findings become positive, and in the third stage the blindness passes away, but it leaves a slight paleness. Hirschberg describes a case which passed through three stages in one month. During the first two the pathologic dilatation was pronounced, but during the last stage the pupil contracted under the influence of light, thus showing that the blindness was subsiding, and the prophecy of speedy recovery of sight was soon verified.

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### A Conservative Element in Acute Mastoid Surgery.

Dr. Edwin W. Pyle (*Archives of Otology*, December, 1901) pleads for conservative methods of treatment in acute mastoiditis. He gives statistics from twenty-four physicians in general prac-

tice throughout the country, which are verified by his personal experience of twenty-five years in general practice and four years in special work, to show how seldom mastoiditis needs operation. He gives the history of a case of acute mastoiditis following scarlet fever, which presented pronounced indications for operation, but the patient refused to undergo any operation, and under the influence of hot douching he made an excellent recovery.

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### Choked Disk.

Merz (*Archives of Ophthalmology*) has come to the following conclusions from his studies and experiments on the etiology of choked disk:

1. Increased intracranial tension alone is sufficient to produce choked disk, and it is only necessary that this tension should be maintained uninterruptedly for some time. Transient increased tension, even when often repeated, leads only to venous hyperemia and arterial anemia of the fundus.

2. In order to produce choked disk the tension needs to be increased but slightly, 8 to 15 mm. of mercury or less.

3. The eyes of the dog and of the rabbit react differently to intracranial tension; while in the former the choked disk is rapidly produced, it can rarely, in the latter, be brought about at all, on account of the deep physiologic cup and the relation of the vessels to the optic nerve. This possibly accounts for the diverse results of different experimenters.

4. The first clinical sign of increased intracranial tension seems to be the change in retinal circulation, dilatation of the veins and contraction of the arteries.

5. The nearer to the eye the vessels perforate the sheath of the nerve, the earlier the changes in retinal circulation appear.

6. In the production of experimental choked disk several succeeding factors are probably important: First, the increased tension leads to compression of the venous sinuses of the brain, disturbing the venous circulation in the eye. Then is added the stasis of liquid in the subvaginal space and the compression of the vessels in their course from their passage through the nerve sheath to the papilla. Finally, the nerve itself is compressed by disturbed circulation in its own lymphatics; with the latter begins the edema of the nerve fibers, which in turn increases the compression of the vessels. Such disturbances in the blood and lymphatic circulation when continued for a certain time lead to inflammatory manifestations in the nerve, its sheaths and papilla.

## DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,

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### Blastomycetic Dermatitis and Epithelioma: Differential Diagnosis.

In the *Journal of the American Medical Association* of Feb. 1, 1902, A. W. Brayton, of Indianapolis, states in part as follows:

"Cancer of the skin is rarely seen before the age of forty, the greater number of cases occurring more nearly at fifty. Of the seventeen cases of blastomycosis tabulated by Dr. Hyde, eight are under forty years of age.

"Epithelioma has its points of anatomic predilection to an extent not at all characteristic of blastomycetic disease. Cancer of the skin begins at some common center and in its course invades the tissues met, regardless of their structure and function, and mercilessly following the lymphatic channels wherever they lead. Cancer usually is represented by a single primary ulcer with a regular indurated base and margins not at all characteristic of blastomycosis. The glandular involvement as a rule is absent in the yeast-caused growth, while in cancer sooner or later the glands are involved in the process. Blastomycetic disease is primarily a disease of the skin—a dermatitis slowly creeping and destroying, healing and scarring over, as the process extends, often extending over twenty years in its progress.

"There is the persistent pain of progressive blastomycosis, unlike any of the discomfort attending the other ulcerous lesions which resemble it in general appearance. The edges of these ragged and irregular ulcers are in a constant state of inflammation, extending perhaps from one-fourth to one-half an inch into the skin not yet breaking down. The symptoms are heat, redness, swelling and pain—a gnawing, burning and persistent pain, intensified at night, preventing sleep, leading to the use of opiates, and only relieved by the destruction of the invaded margins with caustic, or the actual cautery, or by the knife. The knife, the hot iron, the application of carbolic acid followed by the concentrated acid nitrate of mercury, gives immediate relief, or at least as soon as the pain of the burning has been subdued by appropriate dressings."

## GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

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Detroit College of Medicine.

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### Incoercible Vomiting of Pregnancy.

Condamin, of Lyons (*Medical Press,* Jan. 22, 1902), had some time ago the occasion of observing a young pregnant woman who, not able for three weeks to support any food, was reduced to an advanced state of cachexia, with threatening cerebral trouble. Artificial abortion seemed to be absolutely necessary, but, considering the condition of the patient, the operation was deferred until some effort was made to get up her strength. For this purpose enemata, frequently repeated, of artificial serum were ordered daily. Twenty-four hours after the first injections, the patient recovered consciousness, and towards the sixth day the condition was so much improved that the intention of provoking abortion was abandoned. Five days later the patient was able to take nourishment, and gradually she returned to health.

With this example before his eyes, and considering that the incoercible vomiting of pregnancy might be dependent on a general intoxication of the organism as had been found in the case of eclampsia, M. Condamin decided to treat in a systematic manner such cases by means of artificial serum injected through the rectum at the daily dose of three or four quarts, divided up into enemata of ten ounces each. In order that those clysters be well borne, the liquid should be warm and the injection practiced very slowly (time, ten to fifteen minutes).

In case of intolerance, a few drops of laudanum might be added, or recourse might be had to the hypodermic method.

The treatment should last ten days, during which the patient should receive no nourishment, either solid or liquid. After this lapse of time the patient can commence to take some liquid and gradually returns to the ordinary aliments. The injections of artificial serum should be prolonged for a few days.

M. Condamin treated in this way eight cases without ever having to resort to abortion.

# THE MEDICAL AGE

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## ORIGINAL CONTRIBUTIONS.

### SURGICAL NOTES IN CAIRO, EGYPT—STONE IN THE BLADDER HEMATURIA, CHYLURIA, ETC.

BY HAL C. WYMAN, M.S., M.D.,

Professor of Surgery in the Michigan College of Medicine and Surgery, Detroit.

I do not know how long the medical school established here by Clat Bey has been in existence. The Khedive has erected a handsome bronze bust to the memory of that man, but has neglected to put the dates in any but Arabic characters; and as I cannot read that language, and the English physicians in charge of the school and great Kasr el Aine Hospital connected with it do not appear to know much about the French surgeon who founded these institutions, I must forego a bit of history that might be interesting.

I have heard that the Arab students who listened to Clat Bey's lectures were very ignorant and fanatical. When he was making an anatomical demonstration on a cadaver before them one day a number of the apparently deeply interested students sprang from the benches and tried to stab him to death. They were a long time getting reconciled to the study of practical anatomy. But now the college here has one of the best dissecting rooms to be seen anywhere, and fine work is being done with the scalpel by the Arab students. Most of the students who take the medical courses here afterward go to Paris and take the French degree. For all England has an army here and dominates trade and salaried positions, the heart of the Arab medical man yearns for French ideas.

This Nile valley has been and is now a great place for stone in the bladder. All the surgeons in Cairo, Alexandria, and Port Said speak of the frequency of stone and bloody urine. They crush the stone with lithotrite, and rarely do a cystotomy or suprapublic operation, because the natives, who are the most frequent sufferers, do not like to submit to the cutting operation. Inquiry here reveals the fact that the common occurrence of stone is due

to the presence in the Nile water, which is the only water used by the natives, of a parasite worm which lives in the portal uterine and hemorrhoidal veins. The female fills with ova, which escape from her body, and owing to a peculiar spine and cilia move about through the tissues and often bore into the bladder and rectum, causing the bloody urine which all who live here very long and drink uncooked water are likely sooner or later to have. The stone has a blood-clot for a nidus, and its development and the distress it gives its owner are merely a matter of time.

Some one a long time ago found this parasite and described it, and named it, for its discoverer probably, *Bilharzia haematobia*. It is not pleasant to think how the great builders of the Pyramids may have been laid low by other stones than those they piled in splendid heaps. And we would like to know how they managed the distressing small affairs. Surely men who could transport those massive blocks must have known how to cut out or crush the painful little ones that plugged their urinary apparatus. Maybe they knew the worm, the bilharzia, before it made its presence felt by pain and bloody urine, and with some leaf or flower or root or stem made a remedy which caused the human veins to be as untenable for the bilharzia as santonin makes the intestines an unfit abiding place for other worms.

This worm often operates as an exciting cause for hemorrhoids, rectal polypi, perirectal abscess, fistula in ano, straining at stool, suggestive of dysentery, a true proctitis in which the rectum is so irritable and sensitive that local examinations are quite out of the question without anesthesia. For their infirmities the Arabs use their one sovereign remedy—Nile mud. It, however, seldom does any good; it teems with embryo bilharzia waiting to be swallowed.

In Egypt there are many cases of elephantiasis, cystocele of tunica vaginalis, and varicose lymphatics, which the physicians there tell me are due to filariæ—another kind of worm which selects the lymphatics as its place of residence. Dr. Phillips, house surgeon to the Kasr el Aine Hospital, showed me a young man, an Egyptian, who had the disease filaria nocturna. He looked pale for a dark-skinned man, was anemic, and had chyluria. At night a drop of blood taken from the finger-tip and smeared on a glass slide showed dozens of these small worms about as thick as a blood-corpuscle and one-eightieth of an inch in length. No one has succeeded in devising a sure remedy. The cases commonly continue with more or less severity until some other malady slips in. Cystitis, prostatitis, elephantiasis of leg, arm, scrotum, or the glands of the groin may carry the patient off.

Chylous ascites is very frequent. The filariæ will in these cases generally be absent from the blood, but exist in great numbers in the lymph vessels. Manson, whom I learn here is the

great authority on tropical diseases, says they are not in the blood, because they are held back by the obstructions they have caused in the thoracic duct and glands. Good, careful surgeons open the distended lymph spaces and let the fluid escape, with relief to the patient. Sometimes they amputate a scrotum or huge gland which is the subject of filarial elephantiasis. All surgeons must be under the strictest antiseptic precautions lest streptococcus infection occur and destroy the patient. These cases often suffer from a constitutional lymphangitis which they here designate elephantoid fever. It is doubtless due to infection, proceeding from an abrasion or opening in the elephantiased area.

Cairo, Egypt, Dec. 24, 1901.

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## MECHANICAL ASEPSIS.

BY B. F. WARD, M.D., WINONA, MISS.

Mechanical asepsis, of course, implies sterilization by mechanical agencies; the exclusion, destruction, or arrested action of microscopic organisms without the employment of chemical germicides.

The cause of the fermentative and putrefactive processes taking place in solutions of animal and vegetable substances is no longer a question of controversy. It is known to be due to the presence of organisms.

It is well established also that there is no such thing as spontaneous generation of the organisms to which fermentative and putrefactive processes are due.

If the organisms are excluded, or rendered inert, no fermentation or putrefaction can occur, and solutions of animal and vegetable substances, thus protected, will remain pure and without change of quality or condition for an indefinite period.

Professors Tyndall and Pasteur, the greatest and most accurate scientists of this or any other age, have abundantly verified the proposition that many of the organisms essential to the fermentative, putrefactive, and pathogenic processes, especially those usually inhabiting air and water, owe their existence and capacity for specific action to the presence of oxygen. Deprive them of oxygen and you have no fermentation, no putrefaction, and no pathogenic process, which is due to the presence of these organisms.

It is true there are tribes of bacilli that live, proliferate, and prosecute their deadly work in the tissues of the animal economy, beyond the reach of free oxygen, but it is probable that they possess the faculty of extracting from the tissues in which they reside

a supply of oxygen sufficient to meet the demands of their existence and activity.

The ancients knew many things in chemistry, pathology, and therapeutics, for which they did not pretend to give a scientific reason. Many of the basic principles of our profession were handed down to us from these wise men. They had discovered and established these great fundamental truths by that patient, laborious, and intelligent observation in which modern investigation, in its haste, is so often deficient.

For instance, it is well known to be very difficult to successfully brew beer in a hot climate, yet we are informed by Professor Tyndall that the Egyptians understood perfectly the art of brewing more than two thousand years ago, although they were entirely ignorant of the fact that the whole process was due to the action of living organisms. In brewing we have a beautiful and forcible illustration of the proposition that the vitality and functional activity of microörganisms are dependent upon the presence of oxygen, for when the torula, or yeast plant, is sown in the fertile soil of the wort, or fermentable liquid, they at once begin to grow and rapidly proliferate. If the wort is exposed to the atmosphere the reproduction is very vigorous, because of the abundant supply of free oxygen, but there will be no alcoholic fermentation, no brewing proper, and no beer. Shut off the oxygen of the air, however, and the struggle for existence begins with the little torula. They are drowning, so to speak, in the fermentable liquid for want of breath.

In their desperation the torula seize hold of the oxygen which is held in combination in the fermentable liquid, and one of the results of the disorganization produced by this forcible appropriation of oxygen, held in combination, is the liberation of alcohol, and we begin to have beer.

This process goes on until the torula, fighting for life, have consumed the oxygen held in combination in the wort, when the fermentation ceases and beer is the result.

In this effort of the yeast plant to extract oxygen from the wort, Professor Tyndall tells us that we have a striking example of the "survival of the fittest." He discovered that only the young and vigorous torula were equal to the task; the older and more feeble ones being the first to die, unable to cope with the younger generation in the contest for the scant supply of oxygen held in combination in fermentable liquid. This may explain the morbid manifestations of various diseases due to the operation of specific bacilli.

It may be that these bacilli in their struggle for existence lay hold upon the oxygen held in combination in the living tissues and fluids, and the resulting disorganization constitutes the pathological process similar to alcoholic fermentation.

The learned professor also instructs us that there are various other tribes of bacteria in the air that would leap into the beer wort, if left exposed to the atmosphere, and go actively to work, interfering with the legitimate action of the yeast plant and thus producing inferior, or "rotten," beer. These germs he aptly terms the "weeds of the air."

The distinguished investigators, in further demonstration of the assumption that oxygen is indispensable to the life of micro-örganisms inhabiting air and water, refer us to a phenomenon with which we are all familiar.

For centuries, perhaps, the idea has obtained among rural populations that pond water covered with green scum was better for stock than clear flowing water. They claim also that stock instinctively learn this, and will break the scum and drink from these green pools in preference to clear water.

It is the popular idea, however, that the water has spontaneously purged itself by throwing its impurities to the surface. This scum is a vegetable growth called penicillium, the germs of which floating in the air are sown upon the surface of the pond, where, finding congenial soil, they rapidly spring up, grow and multiply like the "seeds sown in good ground," until the whole surface of the water is completely covered, excluding the atmosphere, and, as it were, hermetically sealing the water in the pond; in which condition, it is asserted, the microscopic and pathogenic organisms speedily die, for want of oxygen, and gravitate to the bottom, leaving the water sterile and harmless for potable purposes.

In like manner, it is claimed by the same authority, perfectly pure water may be procured for drinking purposes by storing if in tanks and pouring a small quantity of oil on the surface, thus excluding the oxygen of the air and insuring the death of the noxious organisms. These are illustrations of mechanical asepsis and antisepsis as well.

The germs of the penicillium, or green scum, are floating generally in the air. They germinate, take root, and grow wherever they may fall on suitable soil, supplied with the requisite conditions of warmth and moisture.

It is the same plant which, under the common name of mold, we constantly find on damp walls, in closets and cellars, accumulating upon articles of clothing and especially articles made of leather; its growth and vigor depending upon the fertility of the soil on which it may chance to fall.

Now we learn from the experiments of Professor Tyndall that if the wort or fermentable liquid of beer is left exposed to the atmosphere, this penicillium, or "weeds of the air," will quickly take possession of it and flourish luxuriantly so long as they can breathe freely the oxygen of the air. When, however, he pressed the penicillium down into and beneath the surface of the fermenta-

ble liquid, thus depriving it of the oxygen of the air, the struggle for existence at once began; the penicillium, just like the yeast plant, seized hold of the oxygen in the fermentable liquid, and the liberation of alcohol, or alcoholic fermentation, was the result, precisely as we found in the scientific process of beer-making.

In both instances the bacteria, when denied access to free air, began to voraciously devour the limited supply of oxygen held in the fermentable liquid, and alcoholic fermentation was the natural product.

Without oxygen these bacteria, both torula and penicillium, must suffocate and die, and their existence could only be prolonged till the limited supply of oxygen in the fermentable liquid was exhausted.

But these eminent authorities furnish us with other striking and beautiful illustrations of mechanical sterilization. They found, for instance, that air would sterilize itself if permitted to become, and remain, absolutely still.

If ordinary air is so confined that it becomes perfectly waveless and motionless, every living germ floating in it will gravitate to the floor or adhere to the walls of the inclosure, leaving the contained air completely purged of every living or pathogenic germ. In this mechanically sterilized air flesh wounds might be constantly exposed without the most remote possibility of infection if such exposure was possible without disturbing the waveless air. This is demonstrated by introducing beef tea and other solutions of animal and vegetable substances through an ingeniously arranged pipette into cups stationed in this confined and waveless air. These solutions remain for months and years as absolutely pure and sweet as if hermetically sealed. But the slightest wave set in motion in this confined air by any external force will immediately put the bacteria on the wing. They at once attack the cups of beef tea, and in a few days the solutions are in a state of rank putrefaction.

Advanced surgery is now sometimes conducted in rooms filled with vapor, on the principle that a dry feather will float in the air while a wet one will fall to the ground. For the same reason thorough and continued oiling of the entire cutaneous surface of scarlet fever patients effectually arrests the contagion. A greasy germ cannot take to wing. None of the bacteria of the air possess the faculty of locomotion; they are controlled entirely by the waves of the air.

Helmholtz discovered that an infected, putrefying fluid separated from a sterilized liquid by a thin membrane that permitted the infected fluid to percolate through and mingle with the non-infected carried no infection with it, the organisms of putrefaction being left behind.

Schroeder, Van Dusch, Pasteur, and Tyndall, in like manner

discovered that no atmospheric germ could penetrate cotton-wool, and that all air filtered through cotton was absolutely sterile and non-infectious.

Tyndall also discovered that the mucous membrane of the air passages possesses the capacity of sifting the inspired air of its organisms, so that the deeper air cells of the lungs are filled only with sterilized air. He demonstrated this by a beautiful experiment. He had discovered that the scattering of light is due to the floating matter in the air, and that a luminous beam passing through a darkened chamber of confined air would become invisible as soon as the air was sterilized.

Passing a beam of light through a darkened chamber of non-sterilized air he would hold the point of an iron rod heated to a white heat immediately under the beam of light; instantly there would appear a dark spot in the beam at that point, showing that the living organisms of the air to which the scattering of light is due were destroyed at that point, thus rendering the light at that spot invisible. Having established the fact that the luminous beam was the most delicate and accurate test known to science of the sterilization of air, he would take a blow-pipe, and having inflated his lungs to their utmost capacity place the point of the pipe against the luminous beam, exactly as he had done the heated iron rod, and begin to blow slowly and steadily against the beam. At first, as only the non-sterilized air from the upper cells was propelled against the beam, no impression would be discovered, but toward the last of the expiration, as the sterilized air from the deeper cells was forced against the beam, a dark spot would appear exactly as had been produced by the hot iron, showing conclusively that the germ-laden air at that point in the luminous beam had been displaced by the sterilized and non-luminous air from the deeper cells. This filtering faculty of the mucous lining of the air passages doubtless accounts for the arrest and lodgment of the tubercle bacillus in the apex of the lung, the resistance of the sifting tissue preventing their passage to the deeper cells.

Following the trail of these wonderful men, whose revelations of natural law are, to my humble mind, more attractive than the fascinations of a gilded romance, we find a hint, dropped by the wayside, that the bacteria of the air, to the presence of which the infection of wounds is mainly due, and to the vitality and pathogenic action of which free oxygen is so essential, when hermetically enclosed in a clean fresh wound and thus deprived of free oxygen, might possibly lose their functional force and become innocuous before they had acquired from the tissues of their new habitation sufficient oxygen, held in combination, to sustain the vigor essential to proliferation and destructive operation, and if the wound were then so treated as to admit only filtered or sterilized air, the main factors in aseptic and antiseptic dressing would be established through these mechanical agencies alone.

I determined to make a few simple experiments along this line.

A negro was brought into my office bloody to his heels. He had been stabbed in the chest, the knife striking the first rib, passing directly downward for four or five inches, the width of the blade preventing its penetrating the cavity. No water was used, and no aseptic precaution adopted. The blood was wiped away with dry absorbent cotton, and the wound packed with the same material till oozing ceased. It was then tightly closed with non-sterilized silk, covered with a thick, broad compress of dry cotton secured by a closely fitting bandage.

On the fifth day, when the bandage was unfastened, cotton dropping off, all sutures were removed; union was perfect, requiring no further dressing.

A white man was cut by a fellow laborer at the brick factory near the town. We found him face downward on the field of battle. The knife had entered the right side from behind, sweeping entirely across the back below the points of the scupulæ, and dividing the muscles on posterior of left arm nearly to the bone. Assisted by my friend Dr. H. C. Kent, the wound was simply packed with dry cotton till oozing ceased, closed with non-sterilized silk, and covered with dry cotton held in place by a bandage as tight as comfort would admit. The wound in the arm was closed with deep sutures in the effort to approximate ends of severed muscles, and dressed in the same manner. The wound altogether was not less than 18 inches in length.

On the sixth day the bandage was unfastened from body, and the cotton dropped off; all sutures were removed from wound on back; union perfect; no further attention required. In consequence of imperfect coaptation of severed muscles, there had been some oozing from wound in the arm, causing the cotton to adhere. It was softened with boiled water and removed. Sutures were removed from both extremities of wound where union was compiete, two center ones being left. Dressed again with dry cotton alone. Four days later the dressing was removed; union perfect; no further attention.

A lady, Mrs. N——, had an encysted tumor in right cheek, about the shape and dimension of a large oyster. Assisted by my friend Dr. T. R. Trotter, patient being anesthetized, the tumor was removed through one straight incision extending from near the angle of the mouth back on a line with the inferior maxilla. Wound packed with cotton till oozing ceased, closed with non-sterilized silk, dressed only with cotton and firmly fitting bandage.

On the fifth day the bandage was removed; cotton dropped off; union perfect; no further dressing. Unfortunately, partly owing to the hurry of the operation and partly to the flabby condition of the tissues, a portion of the capsule was left. The tumor returned, this time growing rapidly, in six months reaching its former size. Again assisted by Dr. Trotter, patient anesthetized, the opera-

tion was repeated, capsule dissected out, taking care to avoid puncturing the buccal mucous membrane. On the fifth day the bandage was removed; cotton dropped off; union perfect; no further dressing.

A lady, Mrs. H——, had what we diagnosed a benign tumor, about the size of an orange, in left mamma. Assisted by Dr. Trotter, patient anesthetized, the superficial tissues being sound and non-adherent, the tumor was removed by one straight incision five inches in length from above downward. Wound packed with cotton till oozing ceased, closed with silk sutures, dressed with dry cotton compress and tight bandage. Patient permitted to go to her home, two miles distant, that evening. To our great chagrin a treacherous blood-vessel concealed in the loose tissues awaited its opportunity to bring us to grief. During the night a severe hemorrhage occurred, bleeding her almost to syncopy. Though not a drop of blood escaped, the tissues were stretched almost to bursting.

Of course there was nothing to do but "open up and sweep out." An immense clot was turned out, wound thoroughly irrigated with carbolized water and packed with iodoform gauze for three or four days, after which the edges of the wound were approximated with adhesive strips, dressed with dry cotton as before, and left alone. It healed kindly and rapidly without any sign of infection.

A lady, Mrs. A——, had a carcinomatous tumor of the left breast the size of a small orange, superficial tissues firmly adherent and beginning to break down on apex. Assisted by my friend Dr. H. J. Simall, patient anesthetized, the tumor was removed by two elliptical incisions sufficiently beyond base of tumor to avoid unhealthy tissue. Center of raw surface was so wide that we expected to have an open wound, but found that with deep sutures and strong tension the edges could be barely approximated. Closed with non-sterilized silk, dressed with dry cotton and a very tight bandage. On the sixth day, patient being twelve miles from town, the bandage was removed; cotton dropped off; union complete; no further attention. The disease never recurred near the seat of operation, but, as we anticipated, developed in axillary glands and destroyed her life.

In none of these cases were any aseptic precautions whatever taken except to avoid water, work with clean hands, and pass instruments used through the flame of a spirit lamp.

A negro woman had an encysted tumor in right cheek, the size of a large orange. Assisted by my friend Dr. H. C. Kent, patient anesthetized, the tumor was removed by a straight incision extending from near angle of mouth to an inch beyond lobe of ear, growth dipping deeply down behind angle of jaw. In this case the face was cleansed with germicidal soap, wound packed with cotton till dry, vessels secured with silk that had been boiled

an hour, and wound closed with chromicized catgut, dressed only with cotton compress and very closely fitting bandages.

As the cavity was large some oozing occurred, causing the cotton to become hard and unpleasant to patient. To quiet her complaint I ventured, with the use of boiled water, to remove it on the third day in a negro cabin, and redressed with cotton as before. Four days later, when the dressing was removed, there was union throughout line of incision, but slight suppuration around each ligature, which, however, gave no serious trouble. I felt satisfied infection occurred from admitting unfiltered air on the third day.

A negro man, hand lacerated with saw in spoke factory, requiring amputation, through metacarpal bone of thumb. Hand cleansed with germicidal soap, wound dried, closed with silkworm-gut, dressed with cotton and bandage. Having no assistant, the patient recovered from the anesthesia before dressing could be applied, and being restless and unruly the bandage was awkwardly applied. Had infected wound and slow recovery. I believe infection was due to admission of unfiltered air.

I will not multiply these little insignificant operations, as they are of no importance whatever, except to illustrate the principle of mechanical asepsis, avoiding water, closing wound tightly, and admitting only filtered air. For six years I have adhered to this method in all the little surgery falling into my hands. I have employed it in circumcisions, in operation for harelip, in removal of epithelioma from the face, several amputations of fingers, excisions of small tumors in different localities, and all manner of small wounds, incised and lacerated, with uniform results, except in the two cases of suppuration mentioned, in both of which I attempted some aseptic precautions.

When I recall the surgical history of the Confederate War, the horrors of two thousand battle-fields, there comes to me a sensation of profound regret that we did not know the danger of water, the value of dry cotton, and the "balm in Gilead" of filtered air.

Aside from honor, patriotism, and valor, the only thing of which the Confederacy had a superabundance was cotton; what the Confederate surgeon needed more than anything else was cotton. There was cotton for breastworks, cotton for blockade runners, cotton to burn, cotton out of which government thieves were to coin immense fortunes under the Plutonian shadow of peace that was more terrible than war; yet not a pound of this precious stuff to soothe with its soft and downy folds and shield from unfiltered air the bleeding wounds of a hundred thousand heroes.

My crude and limited experience with dry absorbent cotton as a dressing for fresh wounds, and my abiding faith in the efficacy of filtered air, led me to the conclusion that dry absorbent cotton alone ought to be an ideal dressing for blistered surfaces. I

was not disappointed. To all lesions of animal tissues filtered air is the breath of angels.

If you admit only filtered air to a blistered surface, you will have no annoying irritation. Dry absorbent cotton absolutely solves the whole problem of managing a blister. It obviates every objection hitherto urged against blistering as a source of annoyance and discomfort to the patient. All that is necessary when the plaster comes off is to apply one starch poultice, thoroughly boiled but thin enough to pour into a linen sack, one side of which shall be thoroughly oiled with castor oil, and applied covered with absorbent cotton and bandaged firmly for three or four hours. This will raise the cuticle with an abundant crop of large, well filled vesicles. Carefully clip these, dry the surface with absorbent cotton, dress with thick compress of same, held in place by a broad, smooth, well fitting bandage drawn as tightly as comfort of patient will admit, and you are done with it. In this manner infants can be blistered and dressed without provoking an expression of pain. They can be lifted from the bed, have clothing changed, nursed at the breast, and handled without distress to mother or patient. Blisters drawn and dressed by this method are unquestionably anodyne and sedative. A nervous, restless patient will often drop immediately into a refreshing sleep, with a marked decline of pulse and temperature. This is the only logical and practically proper dressing for a blister, and blistering is a potent factor in the vast array of therapeutical forces. New remedies rise and fall as rapidly as political careers. Like locusts they swarm by seasons with a like record for longevity. The highways of medicine, through centuries, are strewn with the wrecks and littered with the débris of dead and dying remedies, but blistering is the "rock of ages" in the wilderness of disease, ever ready to yield the waters of life when touched by the staff of the intellectual physician.

Blister your patients, feed your wounds with filtered air, and your patrons will bless but probably never pay you.

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## NEPHRITIS AND EMPHYSEMA.

BY FREDERICK P. HENRY, M.D.,

Professor of Principles and Practice of Medicine, Woman's Medical College, Philadelphia, Pa.

*Case 1.*—Acute nephritis in a boy of ten years; high degree of albuminuria, general anasarca, ascites, temporary absence of casts. This patient was introduced to you two weeks ago as a case of acute nephritis. As a rule this disease in children is a sequela of

*Abstract of clinical lecture delivered Nov. 6, 1901.

one of the infectious diseases, especially scarlatina and diphtheria, but in this case there is no history of any infection nor of undue exposure to cold and dampness, which is also a well recognized cause of the disease. We must perforce speak of the disease in this instance as "idiopathic," although this term is nothing more than a temporary cloak for ignorance. The anasarca which was so marked a feature of the case has certainly not diminished except in the loose tissues of the scrotum, which has been punctured with a needle in several places, and from which a considerable quantity of fluid has oozed. In the peritoneal sac the fluid has evidently increased, and it seems but a question of time when the operation of paracentesis abdominis will have to be performed. This case can no longer be called "acute," and in view of the absence of any history of the usual causes of acute nephritis in childhood, I begin to suspect that the disease may have been subacute from the start. Be this as it may, the duration of the disease, its resistance to treatment, and the characters of the urine, warrant us in now regarding the case as chronic. Chronic nephritis is rare in childhood except as a sequela of the acute form of the disease, and as a rule acute nephritis in childhood does not become chronic. If chronic nephritis were a usual result of acute inflammation of the kidney, the former affection, instead of being rare in children, would be quite common. This is self-evident.

When this case first came under our observation, it presented one remarkable feature to which I called your attention, and which, I am sure, has not escaped your memory. The urine contained an abundance of albumin, but during the first week of the boy's stay in the hospital it was *absolutely free from casts*. There can be no doubt about the absence of casts from the specimens, for they were examined by an expert. Casts, hyaline, epithelial, and granular, are now present in quantity sufficient to justify the term "desquamative" nephritis. I cannot account for the temporary absence of casts except on the hypothesis that the renal epithelium was diseased to such an extent as to allow the escape of albumin, and yet not sufficiently loosened from its attachments to permit of its desquamation.

The degree of albuminuria has been repeatedly tested with Esbach's albuminometer, and has been found to fluctuate between 1 and 3¾ grammes to the liter—*i.e.*, between 0.1 and about 0.4 per cent.

The treatment has consisted chiefly of daily hot baths of ten minutes' duration, by means of which the perspiratory glands have been kept active; of saline purgatives sufficiently often to produce and maintain two or more watery stools a day; and of a diet of bread and milk. Internally the time-honored Basham's mixture has been administered. The patient, it is scarcely necessary to add, is kept in bed in a warm, dry room. There is nothing original

in this line of treatment, but its steady continuance will certainly lead to improvement, if any improvement is possible, and perhaps even to cure. There is one drug to which some enthusiastic therapeutists attach quasi-specific properties in Bright's disease, and which I believe to be useful. I refer to the lactate of strontium. I have used this drug in the Bright's disease of adults, and I am sure with benefit. I am not sure that it diminishes the degree of albuminuria or the number of casts except relatively, by increasing the amount of the urinary secretion, but I am sure that under its use the general condition of the patient has improved. I have given it to adults in doses of 15 or 20 grains thrice daily, and generally prescribed it in a bitter infusion. To a boy of ten it might be prescribed in doses of 5 or 10 grains three times a day.

*Case 2.*—Woman, forty-three years of age, with asthma, emphysema, and floating kidney. This woman, who is a seamstress by occupation, was admitted four days ago. Her family history is excellent, her parents living to old age—seventy-four and seventy-six years of age respectively—and dying of pneumonia, and her brothers and sisters presenting a record of freedom from chronic wasting disease. The patient herself, however, has never been strong, and has of late suffered from menstrual irregularity. She has had six children and no miscarriages. You have already noticed her cough, which is spasmodic and prolonged, and you also doubtless observed that when she was placed on the table in the dorsal position she requested that her head be raised by an additional pillow. Her pulse and respiration are now somewhat accelerated, but this is partly due to the excitement and exertion attendant on her appearance before you. There is no edema, and no signs of cardiac disease, although the valvular sounds are somewhat faint and distant. The percussion is unimpaired over the whole of the chest, and in front and on either side of the sternum it is unusually loud and deep—vesiculo-tympanitic resonance of Flint. On auscultation the expiration is prolonged and attended with sonorous râles.

From these facts the diagnosis of emphysema is fully justified, but there is another sign which is never absent in well marked cases of emphysema, and upon which therefore great reliance is to be placed. This is diminished expansion of the chest. Testing the expansion carefully with a tape-measure, I find it to be only half an inch, instead of from two to four inches, as it should be in health. That this condition of emphysema is secondary to asthma is proven by the history of well marked asthmatic paroxysms, which have been most frequent and severe in the spring and autumn. In all cases of asthma the physician should carefully search for its cause, which is often proved to be a catarrhal inflammation of the nasopharynx, or polypi in the same situation. The exciting cause of the attacks may, however, be seated below

the diaphragm—for example, in the stomach, uterus, or kidney. In this case I have been able to exclude all the usual exciting causes of asthma. There is no catarrh of nose or pharynx, nor any digestive disorder or uterine or ovarian disease; neither is there disease of the kidney in the ordinary sense of the word. There is, however, a condition of the last mentioned organ which I have never known to be adduced as a cause of asthma, but which in the absence of any other irritant we are, I think, justified in so regarding—at least in this particular case. This woman has a floating kidney, and the question at once arises whether there is any connection between the dislocation of this organ and the paroxysms of dyspnea. As already stated, it is the only source of irritation in the body that we have been able to discover. The displaced kidney in this case does not give rise to pain from torsion of ureter or other cause, but the asthmatic attacks furnish a distinct indication for its treatment. The displaced organ is distinctly palpable on the right side, and its contour may be made out by placing one hand over the renal region behind and pressing strongly forward: with the right hand the dislocated kidney may then easily be grasped.

In view of the absence of pain resembling renal colic, or, in fact, of any pain whatever, I would not recommend any operative procedure with the object of fixing the kidney in its normal position. Another contraindication to operation is the chance of mistake in the supposition that the irritation caused by the movable kidney is concerned in the production of the asthmatic attacks. For the present I would advise that the kidney be kept in place by proper pads and bandages, and that the patient keep to her bed. If with these precautions the asthmatic paroxysms should be greatly ameliorated or cease entirely, the inference that the movable kidney and the asthmatic attacks are etiologically related would seem to be justified.

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THE great scarcity of nurses in Turkey has led to a proposition, says an exchange, made by the faculty of the American College for Girls in Constantinople to its trustees in Boston, that in connection with the academic course a medical department in the form of a hospital and training school for nurses should be established. It is claimed there is a splendid opening for nurses in taking charge of the native women who lead idle, aimless lives, and take very little air or exercise, and who consequently develop many real or imaginary diseases. These women greatly need some one to instruct them in the simple laws of hygiene and the care of the body, and nurses would be heartily welcomed by them. The Turkish hospitals import their nurses from Germany.

# THE MEDICAL AGE.

**A Semi-Monthly Journal of Medicine.**

EDITED BY FREDERICK W. MANN, M.D.

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## EDITORIAL ARTICLES.

### THE CANCER PROBLEM.

The view that cancer is a protozoön disease continues to grow apace. While clinicians are trying to enrich the scope of treatment, others are working with painstaking efforts to find the cause of the disease or of this group of diseases. The view that cancer is infectious is not new. In a recent review the famous surgeon Czerny tells us that in 1778 Jean Godinot intended to build a cancer hospital in Reims, but he met with decided opposition, and was obliged to house his patients on the outskirts of the city, together with syphilitic patients. In 1833 a Prussian edict placed cancer among the infectious diseases. Recently the possibility that cancer might be an infectious disease received renewed attention. The work done by Gaylord and others is well known to the profession. Some suggest that an infection may take place by the aid of a third party, similar to the malaria infection.

Moran is reported to have succeeded in carrying out a most remarkable experiment. He had two cages with mice; one cage contained mice infected with cancerous growths. When he allowed bugs to visit the healthy colony members of the same became infected. No infection, however, took place when he prevented the bugs from entering the cage with healthy mice, by immersing the base of the cage in a solution of turpentine, alcohol, and camphor. If a protozoön can be found in the cancerous growths of the diseased colony in the bug and afterward in the newly infected mice, it cannot be denied that importance must be attached to these experiments. In general, we may say that all investigations and theories have not yet been able to prove any one certain factor to be the cause of the disease. Nevertheless, we may say that by the aid of experimental medicine the cancer question may be brought nearer to our understanding, and it is not impossible that indisputable proofs of its origin may be furnished in the future.

## EDITORIAL NOTES.

### Temperature and Tuberculosis.

There is little doubt that much delay in recognition of the tubercular process comes from effort to confirm the diagnosis by discovery of the bacillus. It is well to remember the remark of Seguin: "During tubercularization all the signs expected from the keenest recourse to physical diagnosis may be silent, whereas thermometry will give out positive evidences of the consumptive process. The temperature is a more accurate indication of the amount of tuberculosis and tubercularization than either the physical signs or symptoms. By means of the thermometer we can diagnose tuberculosis long before the physical signs and symptoms are sufficient to justify such diagnosis."

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### The Kaiser and the Christian Scientists.

Recently it appears that the cult founded by Mrs. Eddy, of Boston, has been gaining quite a following among those prominent in court circles at Berlin. This fact has greatly displeased the Kaiser, and he recently called in consultation the superintendent of morals and the cathedral chaplain to devise ways and means to check the growth of the movement. He has since issued an edict that all persons hereafter engaged in practicing Christian science rites shall be excluded from the court. The stand thus taken by the German Emperor shows that he has at heart the best interests and welfare of those over whom he reigns.

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### Blackmailers and Doctors.

It is said that a large number of blackmailers are abroad. Their plan is to cook up charges of malpractice against young physicians, and then talk settlement to avoid exposure. The best resource of the profession against these reptiles is the insurance company, which has money enough to fight any unwarranted claims. Doctors had better avail themselves of malpractice insurance.

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### Erratum.

By an error the article on Cult of Centenarianism, appearing in the Medical Age of January 25, was credited to P. H. Kinnear instead of William Kinnear, of Cincinnati, whose previous contributions have given our readers much pleasure.

# ITEMS AND NOTES.

Many insurance policies against smallpox are being written in London.

It is proposed to erect a marine hospital at Savannah, Georgia.

Professor Von Leyden will celebrate his eightieth birthday on April 20.

Funds have been raised for the erection of an American hospital in Paris.

The Fifth International Congress of Psychology will be held in Rome in 1904.

The late Sir William McCormack left an estate of over one hundred thousand dollars.

The Dowager Empress of China has issued an edict prohibiting foot-binding in the kingdom.

During the past year there were 119 fatalities in Switzerland due to mountain climbing.

The International Conference of the Medical Press will be held at Monaco on April 7, 8, and 9.

Dr. G. Garibaldi, professor of surgical anatomy and operative surgery, died recently in Genoa.

Professor Escherich has been summoned to the chair of Pediatrics at the University of Vienna.

Professor von Krafft-Ebing will retire from the chair of psychiatry at Vienna at the close of the present semester.

Kaiser Wilhelm has conferred the title of "Wirklicher Geheimer Rath" on Prof. E. von Bergmann, of Berlin.

Dr. John Byrne, of Brooklyn, has retired, after fifty years of active practice, and will make a prolonged visit to Europe.

The International Obstetrical and Gynecological Society will hold its fourth meeting in Rome September 15 to 20, 1902.

Vaccination from house to house by a corps of physicians sent out by the Board of Health has been instituted in Boston.

Dr. Louis Knapp, of St. Louis, who some months ago became the nurse and attendant to Dong Gong, the Chinese leper, has resigned.

THE Northwestern University Medical School, Chicago, has just completed at a cost of $25,000 the building of a new amphitheater.

$50,000 has recently been left to Harvard College to constitute what will be known as the Proctor fund for the study of chronic diseases.

ACCORDING to recent reports, there are living at present in the United States five sets of triplets who have attained an age of forty-five or over.

DR. EUGENE WASDIN and Dr. H. D. Geddings, U. S. M. H. S., have been allowed by Congress to accept the decorations tendered them by the Italian government.

THE Royal Institute of Public Health invited Prof. Max Gruber, Vienna, to deliver the Harben lectures in January. His theme was "Bacteriolysis and Hemolysis."

DR. HENRY J. BERKLEY, clinical professor of psychiatry of Johns Hopkins Medical School, recently met with an accident which will probably cost him the sight of one eye.

FROM statistics recently published, it is shown that the total number of medical students in twenty universities of Germany shows a decrease of 300 from the figures of last year.

ACCORDING to a report of the surgeon-general of the United States Marine Hospital Service, smallpox shows a marked increase in the total number of cases during the year 1901.

THE trustees of the University of Pennsylvania have contracted for the erection of medical laboratories, which it is claimed will be the largest and most complete in the United States.

THE alumni of Johns Hopkins University are preparing for ex-President Gilman of that institution a handsomely bound book containing the autograph of every student of that institution.

THERE are now sixty-three vacancies in the medical department of the army, the largest number in the history of the corps. The next examination will be held in Washington, D. C., April 7.

IT is reported that the Council of the Paris Faculty of Medicine is considering the establishment within the precincts of the Faculty of a bureau of medical information for the benefit of visitors to Paris.

THE bill appropriating $125,000 for the erection of a Marine Hospital at Buffalo has been favorably acted upon by the Committee on Interstate and Foreign Commerce of the House of Representatives.

THE report of the Surgeon-General of the Marine Hospital Service shows that from December 28, 1901, to February 7, 1902, there were a total of 12,105 cases of smallpox in the United States with 292 deaths.

DR. GEORGE E. DE SCHWEINITZ, professor of ophthalmology at Jefferson Medical College, has been appointed professor of ophthalmology in the Medical Department of the University of Pennsylvania, his lectures to begin next fall.

A PARIS exchange states that the amount subscribed for the purpose of erecting a monument to the French surgeon Ollier, of Lyons, has already reached more than 50,000 francs. The surgeons of this country, through Professor Keen, have subscribed 3217 francs, of Austria 600 francs, and of Germany 6000 francs.

THE density of population in foreign countries has, says the *Scientific American,* recently been computed. Great Britain takes the lead with 132 inhabitants per square kilometer, which is equal to 0.3861 square mile; then comes Japan, 114.4; Italy, 106.6; the German Empire, 104.2; then comes Austria, 87; Hungary, 59.6; France, 72.2; Spain, 35.9; the United States, 8.4; Russia, 5.9.

THE foreign population of New York City includes 1,230,000 from Europe, of whom 275,102 are from Ireland, 322,343 from Germany, 145,433 from Italy, and 155,201 from Russia. There are 6077 Chinese, 311 Japanese, 1401 Turks, and 1175 other Asiatics, 32,873 Poles, 31,516 Hungarians, 15,055 Bohemians, 10,499 Roumanians, 1491 Spaniards, 14,755 French, 1221 Belgians, 2608 Dutch, 28,320 Swedes, 5,261 Danes, 21,924 Canadians, and 71,427 Austrians.

THE Hindoo twins, Radica and Dorica, united in a manner similar to the Siamese twins, who have been exhibited throughout the world, were separated by operation February 9, in Paris, at the clinic of Professor Doyen. The operation lasted twenty minutes and was seemingly successful. The operation was undertaken because one of the twins, who are as yet infants, has shown great weakness following severe stomatitis. Both children are said to be tubercular.—*Exchange.*

ACCORDING to the will of the late Sir Astley Cooper, $1500 will be given for the best essay on the "Pathology of Carcinoma and the Distribution and Frequency of the Secondary Deposits, Corresponding to the Various Primary Growths," written by a physician alone. The essay, in English, addressed to the "Physicians and Surgeons, Guy's Hospital, London," must be sent in before January 1, 1904. Each essay should be signed with a motto, and a sealed envelope should accompany it bearing the

motto outside and the name and address of the writer inside. Further details can be obtained from Dr. Newton Pitt, Guy's Hospital, London.

A London surgeon has just published, says the *Philadelphia Medical Journal*, the results of experiments made with modifications of Tesla's high frequency electrical currents in the treatment of consumption. By his apparatus a current of 80,000 volts is produced of such high frequency, yet administered in such small quantities, that the patient receives it without injury. His experiments show great improvement in the cough, night sweats, appetite, weight, and general health, and he claims that even if the bacilli are not destroyed their virulence has been markedly decreased.

The poor health of many Americans in the Philippines has been diagnosed as due to nostalgia. The Philippine Commission has been urged to make an appropriation for a daily cable news service from the United States, in order to bring Americans in closer touch with their home life. A fund sufficient to cover the cable tolls for seventy words a day for three months has been obtained, says *American Medicine*, by subscription. It is probable than an amount to cover the tolls for one hundred words will be received before the news service is inaugurated. The government will send bulletins free to all points on military wires.

The possibilities of the phonograph in the accurate registration of sounds formed the subject of a demonstration by McKendricks before the British Association, Glasgow. The sounds emitted by a large phonograph may be intensified by causing the waves to fall upon a microphone, which in turn affects a loud-speaking telephone. It was suggested that language might be recorded, not by words and syllables, but by signs or symbols which should indicate the necessary movements of the vocal and of the articulating organs for the production of any given sound. Thus phonography would become a means of accurate registration of the actual sounds and accents which might be stored away for the use of future generations. Allusion was made to the experiments of Marage, who was able to reproduce vowels with a degree of fidelity by artificial contrivances, and to Jespersen's analphabetic method of recording sounds by means of letters and symbols. —*American Medicine*.

The new State laboratory for the investigation of cancer in Buffalo has been removed into the building donated through the generosity of Mrs. Gratwick. It is a three-story, fire-proof structure located on High Street, directly opposite the General Hospital. The first floor has a large laboratory and several private

laboratories. The second floor has offices, a library, the private laboratory of Dr. Gaylord, and the chemical laboratories. The third floor has the bacteriological laboratory, incubation room, a perfectly equipped room with skylight for photography and its dark room, and another room for microphotography. The lighting of all the laboratories is perfect, and they are all fitted with modern appliances. Dr. Gaylord and his associates are to be congratulated on their new home, and New York State may well feel proud of giving its support to scientific research work. The community and the medical profession owe Dr. Roswell Park gratitude, as he was the one who first undertook the establishment of this institution.—*Journal of the American Medical Association.*

Since the King, in his reception of the representatives of foreign countries at the Tuberculosis Congress, referred to the desirability of taking steps to check the ravages of cancer, the necessity of organization for research has been frequently discussed. At last a project has taken shape, and will soon be formally submitted to the College of Physicians and Surgeons for approval. As it has already received the support of eminent men who hold or have held high office in these colleges—the president and censors of the Royal College of Physicians, the president and vice-presidents of the Royal College of Surgeons, Lord Lister, Sir William Broadbent, Sir Richard Douglas Powell, Sir Thomas Smith, and Sir John Williams—it will probably be approved of by these bodies. It is proposed to raise a fund to (1) endow laboratories devoted exclusively to cancer research; (2) provide an honorarium for the director of cancer research; (3) provide paid assistants to the director and grants in aid of cancer researches within the United Kingdom or in the British dominions beyond the sea; (4) assist in the development of the cancer research department of the Middlesex Hospital or any other hospital where a cancer research department may be provided; (5) provide for the investigation of any method which may from time to time be brought forward for the prevention, treatment, or cure of cancer, and arrange for the testing under proper supervision of any so-called remedy for cancer; (6) provide means for systematic investigation of the causes, prevention, and treatment of cancer. There will be five trustees, in whose name all moneys will be invested. The income will be administered by a committee consisting of these trustees, the president, and two censors of the Royal College of Physicians, the president and vice-presidents of the Royal College of Surgeons, the laboratory committee of the Royal College of Physicians and Surgeons, and a member of the Local Government Board. It is estimated that $500,000 will be required. Both the King and Prince of Wales have expressed sympathy with the scheme.—*Journal of the American Medical Association.*

# THE PROGRESS OF MEDICAL SCIENCE.

## SURGERY.

### The Treatment of Tropical Abscess of the Liver.

Acute inflammation of the liver should be treated, says Hem Chandra Sen (*Indian Medical Record,* Jan. 15, 1902) with large and thick linseed poultices. This not only removes pain, but hastens suppuration, and in favorable cases helps resolution in the inflammatory stage. Rest and restricted diet, occasional mercurial and saline purgatives, are beneficial. Owing to the severe pain the patient can hardly sleep. To remove this, small doses of morphia should be injected hypodermically, if the poultice fails to alleviate the pain. In the inflammatory stage large doses of chloride of ammonium or vinum antimoniale often helps resolution. If the case be complicated with malaria, muriate of quinine should be given with chloride of ammonium and dilute muriatic acid. Dysentery, if present, should be met by full doses of ipecacuanha. Ipecacuanha is best given with chloral and morphia. Symptoms not improving, exploration with the aspirator must not be delayed. If pus is found, the best course is to open the abscess freely. The cavity should be thoroughly drained with a fairly large sized drainage tube. Perfect antiseptics, thorough drainage and early opening are essential. When any doubt exists as to the presence of pus, explore with an aspirating cannula needle. There is little danger in this proceeding if carefully performed. Slight inflammation may follow, but it will subside, and even if no pus is detected, it sometimes seems to do good by relieving the tension and abstracting a certain amount of blood. Application of leeches over the hepatic region is very useful in hepatitis. Often it cuts short a threatening abscess.

In the Annual Report for 1891 of the Civil Medical Department of Hyderabad, Dr. Lawrie gives a table showing the method of treatment and the result in twenty-six cases of liver abscess, which were aspirated antiseptically. Of these four died. These show the value of aspiration in liver abscess. The rule in the Afzulgunj Hospital is to aspirate in all cases of abscess of the liver, unless the pus is pointing at the surface; and many cases are cured in this way without exposure to the risks of incision.

### Treatment of Enlarged Prostate.

The ideal method of treatment of enlarged prostate is, according to Dr. Alex. Hugh Ferguson (*Journal of Surgery and Gynecology,* February, 1902), a total extirpation through a median

incision in the perineum. He has operated by this method a number of times, with better results than obtained by the suprapubic route. As to the advantage secured by this operation, he states: First, that it is the most direct route to the organ, and that the prostate can be removed without injury to any important structure; secondly, the operation is easily performed—in all of those cases in which the gland has been repeatedly inflamed it makes it more difficult to operate, but not so difficult, even then, to remove the prostate from below as to do the suprapubic operation; thirdly, the removal of the gland, piece by piece, enables the surgeon to work through a small opening and prevent the bruising of the surrounding parts by the finger with the removal of the gland en masse; fourthly, hemorrhage is avoided so long as one is careful to work within the capsule. The hemorrhage in suprapubic prostatectomy or in the combined method is often very alarming. On one occasion Ferguson had to leave pressure-forceps on blood-vessels and pack the bladder tightly with gauze, which was left for twenty-four hours. The patient narrowly escaped death from both hemorrhage and sepsis. Perineal drainage after suprapubic prostatectomy is not as complete as when the prostate is attacked from below—another source of satisfaction.

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### The Prevention of Nausea and Vomiting Following Ether Anesthesia.

R. J. Hess (*Medical Record,* Feb. 22, 1902) says that post-anesthesia vomiting is a source of danger and great discomfort to the patient, and is preventable. It is due to excretion of ether into the stomach with resulting acute gastritis. Drugs are of no avail in prevention or treatment of post-anesthetic vomiting. The present technique of preparation of patients for etherization is faulty, in that fluids are usually prohibited or limited, whereas they should be pushed to aid in the excretion of ether.

The dose of ether should be as small as possible, and the strength of ether vapor should not cause bronchial irritation with excess of mucus. The combined use of NO and ether gives the best results. In anticipation of gastric irritation, give one to two glasses of water just before beginning the anesthetic.

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### Gastroptosis.

Gastroptosis, according to A. McPhedran (*Journal of Surgery and Gynecology,* February, 1902), frequently exists without giving rise to any discomfort. So long as the functions of the

stomach are performed efficiently no symptoms will arise from its abnormal position.

The symptoms of gastroptosis are due to the protracted retention and decomposition of food in the stomach with the local irritation and constitutional poisoning resulting therefrom.

In the condition known as Glenard's disease the gastroptosis or splanchnoptosis plays only a part, often a minor one, in the production of the symptom-group. In not a few instances the splanchnoptosis is rather the result than the cause of the condition.

Prolapse of the uterus, or retroversion, conditions which often accompany gastroptosis, must not be regarded as the sole cause of the neurasthenic condition; treatment directed to the pelvic organs alone in such cases will bring disrepute to the gynecologist.

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## MEDICINE.

### On the Relationship Between Human and Bovine Tuberculosis.

In an exhaustive article on this subject J. G. Adami (*Philadelphia Medical Journal*, Feb. 22, 1902) says that bovine tuberculosis is easily conveyed from cattle to cattle, and whether by inhalation (the most common method), by the milk (in calves), by contamination of stalls and drinking-water through the agency of the saliva and nasal discharge, through the genito-urinary passages, or by intra-uterine infection (very rare), this transmission from one animal of the bovine species to another is far and away the commonest mode of infection in cattle, so common that for practical purposes all other modes may be neglected.

Human tuberculosis is transmissible to cattle. Pure cultures of these bacilli rarely cause infection. Mixtures of tubercle bacilli with other microörganisms (as in sputum) appear to be more infectious. The difficulty in inducing artificial tuberculosis favors the idea that natural infection of cattle with human tubercle bacilli must be of singularly rare occurrence.

Swine appear to be fairly easily infected with both human and bovine tubercle bacilli, and when infected with the former these gain an increased virulence for guinea-pigs and rabbits. But while through the use of infected milk these animals become frequently infected from cattle, conditions favoring the reverse process are rare. Thus, while it may occasionally be that swine, or possibly other domestic animals, act as intermediaries in the passage of tuberculosis from human beings to cattle, the conditions favoring such transmission from man to the hog, or from

the hog to the cattle, so rarely show themselves that again, for practical purposes, this mode of infection may be neglected.

If this be so, it should be possible to eradicate bovine tuberculosis in a region in which human tuberculosis continues to be widespread.

Human tuberculosis in the majority of cases is conveyed from human being to human being by inhalation, more rarely it is conveyed through the alimentary tract, still more rarely through the genital tract, through surface wounds, and from the mother to the fetus during intra-uterine life.

Everything points to the fact that in the main the bacilli causing infection in man are derived from previous cases of the disease in man.

By sojourn in the human body and passage from man to man the human tubercle bacilli have acquired properties differing from those acquired by bacilli which have passed through cattle; their shape differs, the rate of growth and the appearance of the growths outside the body are different; their virulence towards the animals of the laboratory is also different.

These differences are not, however, sufficiently marked or constant enough to permit us to conclude that we are dealing with distinct species. On the contrary, the evidence at our disposal points clearly to the fact that in the different species of animals we encounter at most races of tubercle bacilli which by growth in the bodies of animals of another species take on the characteristics of the race of bacilli peculiar to that species.

Bovine tuberculosis can be transmitted to man and this either through wounds or through the digestive tracts.

By passage through cattle the tubercle bacillus gains increased virulence for cattle, rabbits, and guinea-pigs, but lessened virulence for man and (it would seem also) for carnivorous animals.

Save in the very rare cases of wound infection, there is a significant lack of evidence that bovine tubercle bacilli infect adult human beings.

It is infants and those of early age who are liable to be infected by the tubercle bacilli of bovine origin, and this through the agency of milk. The statistics bearing upon the continued frequency of tuberculosis in children and upon the relative frequency of intestinal and abdominal tuberculosis in children must be accepted as conclusive evidence upon this point.

Even with children a consideration of the great frequency of bovine tuberculosis in certain regions and of the absence of any record of tuberculosis affecting those supplied from a given "milk round," leads to the conclusion that the bovine bacilli have not heightened virulence.

The few positive records we possess of direct transmission of tuberculosis from cattle to man through the agency of the milk

indicate that infection is brought about only by the employment of milk of cattle which are very extensively diseased, more especially of those suffering from udder disease. Such milk contains enormous numbers of bacilli. In other words, large numbers of tubercle bacilli are required in order to infect human beings with bovine tuberculosis. This again is an indication that the bacillus cannot be regarded as having gained a heightened virulence for man, and that infection is not very readily communicated.

Animals showing physical signs of tuberculosis (for mild grades of the disease afford no physical signs), and, above all, those exhibiting udder tuberculosis, should therefore be condemned and under no conditions should their milk be used for food.

Where there is tuberculosis in a herd, Bang's method should be employed, the animals reacting to tuberculin being separated from the healthy ones; the milk from the reacting animals, for whatever purpose used, should be Pasteurized so as effectively to destroy the tubercle bacilli.

The great cause of infantile mortality is inflammation of the stomach and intestines (gastroenteritis and diarrhea), and this is proved to be mainly brought about by the use of badly kept and fermenting milk. Wholly apart therefore from the question of tuberculosis, it is imperatively necessary that greater care should be exercised by all concerned in the distribution of milk, the general measures taken to lessen this, the greatest scourge of childhood (prohibition of use of milk from cattle showing any form of sickness, Pasteurization of milk, etc.), will equally lessen the danger of the transmission of tuberculosis from cattle to man.

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## Intermittent Claudication (Intermittent Limping) Due to Obliterating Neuritis.

C. L. Dana (*Medical Record,* Feb. 22, 1902) says that there is a group of symptoms characterized by intermittent or temporary attacks of paralysis, usually of one leg, accompanied with pain, paresthesia, stiffness, and vasomotor disturbances, and absence of pulsation of one or both foot arteries.

It is chronic in course and may lead to gangrene, or symptoms resembling erythromelalgia or Raynaud's disease. It affects oftenest one leg, but may attack both, and may affect the arm. It occurs in middle-aged people of neurotic temperament, is due to or associated with exposure, alcoholism, gout, diabetes, excessive use of tobacco, and syphilis.

It is due to arterial sclerosis, causing obliteration of the

smaller arteries, also to disease such as aneurism of the large trunks.

The trouble has been called painful paralysis, intermittent claudication, intermittent limping, and perhaps most appropriately, intermittent muscular paralysis, due to arterial sclerosis. The diagnostic points are the absence of the foot pulse, together with the symptoms above enumerated.

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### What Shall We do with the Consumptive?

O. Fanoni (*New York Medical Journal,* Feb. 8, 1902) recommends the following measures for the abatement of tuberculosis: (1) Marriages of consumptives should be avoided; (2) children of consumptives should be so brought up as to strengthen their systems against the invasion of the tubercle bacillus; (3) the public should be educated to realize the fact that consumption is curable in its initial stages—*i.e.,* when mixed infection has not yet taken place; (4) an early diagnosis is the secret of cure. Let us drop the word "cold" as a term for a little cough and a subnormal temperature, and the word "malaria" for cough accompanied by chills, and let us examine the patient carefully in each case. When questioning the patient it must be borne in mind that the consumptive, fearing to hear the word "consumption," often tries to disguise his symptoms, and that it is in such cases that the skilful physician proves his ability; (5) every case of pulmonary tuberculosis should be reported to the local health authorities as soon as the diagnosis is made; (6) every consumptive should be isolated until cured, or until the disease terminates fatally.

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### The Relation of the Sympathetic Nervous System to Functional Amblyopia.

H. S. Pearse (*Philadelphia Medical Journal,* Dec. 28, 1901) says that our knowledge of the manifold manifestations of the disease, hysteria, in every structure of the body will not permit us to say positively that the retinal elements, the conducting channels of visual sensation, or the visual centers themselves, are free from the influence of this disease. The effect upon the visual apparatus of fright, shock, emotion, mental exhaustion, over-exertion, etc., is essentially the same as in hysteria, and whether the sympathetic is concerned in this action is yet a question. In view of the known sphere of action of the sympathetic and of the many cases observed which present the same conditions in the vessels of

the fundus which the influence of the sympathetic produces elsewhere in the body, if the sympathetic does not influence the fundus vessels, what does? Until a more plausible source of influence is positively demonstrated, we cannot do better than accept this explanation, which is far removed from a theory.

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### Tuberculosis of the Kidney.

B. MacMonagle (*American Journal of Surgery and Gynecology,* February, 1902) says that all cases with vesical symptoms should be put through an exhaustive examination to exclude tuberculosis in the beginning of their symptoms.

This examination should embrace staining and animal inoculation with urine taken from each kidney.

In all cases of primary tuberculosis, the other kidney being healthy, nephroureterectomy is indicated and will give good results.

In advanced cases involving one kidney and ureter, nephroureterectomy is indicated and preferable to nephrotomy.

In cases where but one kidney is involved, early nephroureterectomy promises good results in a high percentage of cases.

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## THERAPEUTICS.

### Treatment of Anthrax by Collargolum.

Fisher (*Medical Press,* Jan. 22, 1902) reports a case of anthrax carbuncle treated by collargolum, a soluble form of silver introduced by Credé the younger, of Dresden.

The patient on whom the remedy was tried had for three days a large anthrax carbuncle that occupied the whole right half of the face. He had had a number of rigors, high fever, a very bad general condition, and difficulty of swallowing. No immediate operation was performed, but in place of this an intravenous injection was made of five cubic centimeters of a one per cent solution of collargol. Even after the first injection the condition improved in a few hours, but only to become worse than before. After the second injection the improvement lasted longer, and after the fourth the condition had become normal. One injection was made daily. It was remarkable that no necrosis took place; the board-like hardness gradually softening, and after fourteen days only a small superficial scab was cast off. Anthrax bacilli were re-

peatedly found in the carbuncle and in the blood. No other treatment was carried out. The case appeared to be hopeless, and the remarkable and rapid improvement after the intravenous injection could only be attributed to it. No disagreeable after effects were observed.

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### A Potato Hydrocarbon Diet in Diabetes.

Dr. Dujardin-Beaumetz recently put forward the theory that of all starchy bodies potato is that which may be taken by diabetic persons with the least inconvenience. Although this theory has not been universally received, yet M. Mosse (*Lancet*, Jan. 4, 1902), professor at the Faculty of Toulouse, discussed the point before the Paris Academy of Medicine at the meeting held on December 10. In his opinion potato is not merely slightly harmful, but actually beneficial, and constitutes an essential element in the treatment of diabetes. M. Mosse gives potato in the place of the ordinary ration of bread in the proportion of three times the weight of potato—*i.e.*, from 500 grammes to two kilogrammes per diem. Far from increasing the sugar the use of potato diminishes its output and chemical examination of the urine shows that the carbohydrates of the potato are absorbed and utilized. The results are better in that form of diabetes which is marked by thinness than in the fat form. The rationale of the treatment is probably that potato contains twice the amount of water weight for weight that bread does and nearly the same quantity of potassium salts. Therefore, if a patient takes a weight of potato three times greater than his ordinary quantity of bread he takes six times as much water and three times as much potassium salts, while the quantity of albuminous and starchy matter remains practically unchanged. Potassium salts are an integral part of the alkaline treatment of diabetes and the good which they do easily counterbalances the harm done by the ingestion of the starchy matter. Under the potato treatment the sugar disappears, the general health improves, as does also the appetite, and if the patient is not cured he at all events lives under quite supportable conditions. M. Mosse's results will have great interest for sufferers from diabetes, as potatoes are within the reach of everybody's purse.

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### Ringworm: A Note on its Treatment.

G. T. Jackson (*Medical Record*, Feb. 1, 1902) says that he has found a very efficacious remedy for ringworm, by adding a drachm or more of the crystals of iodine to an ounce of goose

grease. He says he has used this remedy at the Vanderbilt Clinic, New York City, for the past two or three years, almost exclusively, having found it more efficacious than other remedies. It is to be applied twice a day until it produces reaction, as shown by a little swelling of the patch. Then once a day will be sufficient. In two or three weeks the hair falls out of the patch and it becomes bald, like a patch of alopecia areata. After a time the hair grows again and the patch is well. The first applications are apt to be a little painful for a few moments, but after that even little children do not complain of the pain. No epilation is necessary.

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## The Treatment of Syphilis by Injections of Yellow Oxide of Mercury.

M. E. Loison (*Archives de Médecine et de Pharmacie Militaires,* January, 1902; *New York Medical Journal,* Feb. 22, 1902) reports on the use of injections of the yellow oxide of mercury in an outbreak of syphilis in the Twentieth Regiment of Artillery, the results of which treatment were very satisfactory.

Very freshly prepared yellow oxide is used, as this salt is unstable, becoming reddish under the action of light, and acquiring irritant properties. For the injection, the powder is held in suspension by the following formula:

| | |
|---|---|
| Yellow oxide of mercury (fresh) ..... | 22½ grains. |
| Gum arabic ..... | 5 grains. |
| Distilled water ..... | 450 minims. |

M.

Before each injection the quantity of the liquid necessary is sterilized by heating to the point of ebullition in a test-tube, but prolonged ebullition must be avoided lest red oxide be produced.

The amount injected at each séance is 15 minims. The injection should always be made deep, the place of election being the buttock at a point at the intersection of a horizontal line passing two fingerbreadths above the great trochanter, and a vertical one at the junction of the anterior two-thirds and the posterior third of the haunch. This spot is remarkable for the absence of important vessels and nerves. The skin is cleansed first by soap, then by alcohol or ether. In this region the needle may be passed down to the iliac bone. After waiting a few moments to see that no blood issuing indicates puncture of a vessel (if any should come, the needle is withdrawn and inserted elsewhere), the injection is made very slowly, the needle withdrawn and the puncture covered with a pad of collodionized cotton. One injection is made weekly, in either the standing or the prone position, preferably the

latter. Four injections, necessitating a treatment of twenty-eight days, usually suffice to cause disappearance of the actual accidents and to "blanch" the patient. After that, treatment must be continued after Fournier's intermittent method, or the injections may be repeated once a month for the first year, every two months during the second, then alternately with the proto-iodide treatment.

Facility, efficaciousness, and harmlessness are said to be the characteristics of this method, which permits of exact dosage, avoids the intestinal irritation of internal administration of the proto-iodide and other forms of mercury, does not soil the clothes as mercurial inunctions do, and is rapid and powerful in its effects. Its disadvantages are that it sometimes induces a little pain after injection, often, however, only slight and of no long duration, though at times it persists for two or three days. The author has never seen an abscess in over a thousand injections.

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### An Improved Method for Introduction of the Stomach-tube.

H. Crenshaw (*Medical Record,* Dec. 21, 1901) says that cocainization of fauces and pharynx has been resorted to by some, but is now pretty generally abandoned as dangerous and ineffective. The peculiar susceptibility of some persons to the drug, which must be applied in considerable amount in order to produce any result, has led most of those who have had large experience with the tube to give up the use of cocaine altogether.

But an effective and entirely safe method of preventing nausea occasioned by the stomach-tube is that of freezing two or three inches of the extremity of the tube just prior to its introduction, the object being to secure slight temporary anesthesia of the fauces and pharynx by means of the cold rubber. In this way cold is applied exactly where anesthesia is needed, and the irritability is overcome. Thus the tube may be introduced for the first time with practically no gagging, straining, or nausea. The well-known anemetic procedure of swallowing ice offers a parallel illustration of the principle involved in the above method.

The extremity of the tube may be frozen by a few moments' spraying with ethyl chloride. The tube, of course, may be chilled in other ways, but the ethyl chloride is convenient and efficient. The tube has been found not to stiffen markedly under the influence of extreme cold, so no violence from the frozen rubber can occur. And by the time the tube reaches the cardia, its low temperature is sufficiently overcome to prevent any danger to the gastric mucosa, though the tube remain in the stomach some time.

It is not advised that the cold tube be used longer in any one case than is sufficient to accustom the patient to the use of the stomach-tube, though there are stomachs so irritable that the introduction of the tube as ordinarily practiced is never comfortable, when the cold tube is indicated for continued use.

The writer has made frequent successful tests of the principle herein set forth. Modifications, such as the use of an ice plug inserted in the end of the tube, have been tried, but the freezing of the extremity of the tube itself has proven most satisfactory.

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## RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

### Mucocele of the Frontal Sinus and of the Maxillary Sinus on the Same Side.

Luc (*Archives Internationales de Laryngologie,* October, 1901) reports a case which occurred in a lady, aged twenty-nine, with a swelling of the infra-orbital region, and of part of the forehead on the left side. It was associated with rarefying osseous lesions. There was pain, and the eye was displaced down and out, with accompanying diplopia. The frontal mucocele had existed for seven years, the maxillary for two years. The frontal sinus was opened by the Ogston-Luc method, and contained a quantity of clear yellow, slightly viscid fluid. There were no granulations, the lining membrane being of normal pale color. The maxillary sinus was opened by the Caldwell-Luc method, and was found to contain no granulations, but simply a yellow, turbid, vicous, non-fetid fluid.

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### The Congenital Origin of Pharyngeal Pouches and Fistulae.

Godlee and Bucknal (*Journal of Laryngology,* January, 1902) summarize this subject as follows: (1) They are frequently hereditary. (2) They are often bilateral. (3) Though they often do not appear till early adult life, they may be present as fistulæ at birth or very early in life, and it is probable that they are often overlooked, as the symptoms they give rise to are slight, and may take some time to develop. (4) The peculiar course of the canal. (5) The presence of a lining of ciliated epithelium, although they are derived from a portion of the pharynx normally covered with squamous epithelium. (6) The

fact that the neck of the canal or pouch often passes between the carotids in the position of the second visceral cleft. (7) The fact that striated muscle has been found in the wall of such pouches and fistulæ, and that in one case a band of striated muscle ran from the end of the pouch down the course usually pursued by complete fistulæ. (8) The fact that in several cases glands having a similar structure to the normal mucous salivary glands have been found opening into the lumen of pouches and fistulæ. This may account for the discharge noted in cases like the present. (9) The fact that around the lumen a considerable quantity of lymphoid tissue was noted by König in three cases, and also by others, while cartilage has occasionally been met with in the walls of such fistulæ.

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## OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

### Results of X-ray Diagnosis and of Operation in Injuries from Foreign Bodies in the Eye.

W. M. Sweet (*Philadelphia Medical Journal*, Feb. 1, 1902) says that the Roentgen rays offer the most certain method of detecting and locating foreign bodies in the eye. The position of the foreign body should be determined in all cases before the magnet extraction is attempted. Frequent insertion of the small magnet into the vitreous in the hope of finding the metal injures the eye and renders later attempts at extraction difficult, while the employment of the large magnet is without danger when the position of the body is known. Early extraction offers the best chance of saving the eye. When the track of the body is through the cornea and lens, its position in the vitreous will indicate whether less damage will be done by removing the metal through the opening entrance wound or through a new opening in the sclera close to the indicated position of the body. The more extended use in the future of the larger magnet in cases of steel in the vitreous chamber to draw the metal to an opening in the sclera after its position has been accurately determined will probably achieve better visual results than have been obtained in the past with the small magnet introduced into the vitreous. Iron or steel which has remained in the eyeball until a fibro-cellular covering envelops it cannot be dislodged with the magnet. Extraction

with forceps and the employment of normal salt solution to replace any vitreous lost, has resulted in several instances in eyeballs of good cosmetic appearance and is an operation worthy of trial. Forceps extraction must be employed when the body is of copper or glass.

Extraction is a safe operation and under proper precautions is free from the dangers of panophthalmitis or meningitis.

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## The Simple Formalin Method of Preserving Eye Specimens.

H. G. Goldberg (*American Medicine*, Feb. 22, 1902) gives the following simple method of preserving eye specimens by a formalin-gelatin method. Gelatin and glycerin are mixed in the following proportions:

| | |
|---|---|
| Best French gelatin | jss. |
| Glycerin | viij. |
| Distilled water | viij. |

Soak the gelatin in about a pint of water, preferably in a sterilizer, until it swells. The gelatin sinks to the bottom of the jar. Pour off the water and add glycerin and water, of each ℥viij, and the albumen of two eggs (avoiding the yolk) and the shells. Cook the entire mass in a sterilizer about two hours (until the albumen is completely coagulated); filter through filter paper until clear, and add ℥iss of formalin (Schering's, 5%), mix and allow it to harden. Formalin hardens the jelly and should be thoroughly mixed, as otherwise hard lumps will form. The jelly may be melted in a water-bath or in a sterilizer. By this method is produced an almost colorless jelly, which will keep indefinitely.

Tissues hardened in 5% formalin solution having remained in the solution a week or more may be frozen, cut and mounted without any further preparations. If tissues hardened by the other methods, after having passed through the alcohols are placed in a 5% solution of formalin for 12 hours their preservation will be more complete and permanent. When the tissues are impregnated with formalin solution a capsule 5 or 6 millimeters in thickness is formed around the eye, due to the hardening action of formalin upon the jelly. If the vitreous chamber is not already filled it will be occupied by a mass of tough jelly which preserves the form of the globe.

The writer mounted several eyes enucleated for incipient panophthalmitis that had remained in 5% formalin solution only 12 hours. These were frozen, cut and mounted in the jelly

immediately, and the vitreous was preserved showing the first changes noticed. At the expiration of two weeks the specimens are in as perfect condition as when first mounted.

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### The Value of Iridectomy in Primary Chronic Glaucoma.

David Little (*Archives of Ophthalmology*, January, 1902) advocates the employment of iridectomy in every case of primary chronic glaucoma in which the patient is strong enough to stand the operation. He states that we are still following in the steps of von Graefe, who was the first to treat glaucoma by iridectomy; and to-day it is the only known cure for this disease, which is so fatal to eyesight. The writer states that it is difficult to follow up cases years after operation, but only in this way is it possible to draw accurate conclusions. Little has operated upon sixty-seven cases. Of these, eleven are dead, nineteen impossible to find, while thirty-seven can be traced. Of these, ten have become blind, one from atrophy of the globe, one from recurrence of the disease, and eight from optic atrophy, while in all but one the tension is normal. In four of the remaining atrophy was going on, while in twenty-three the vision was better than when the operation was performed, in others it was the same, and in a few it was a little worse. That is to say, 62 per cent held their ground from seven to twelve years after the operation, while with one exception the tension was normal. He was therefore of the opinion that in the majority of the cases iridectomy does reduce tension permanently. He operated on a patient in 1887 in his only remaining eye when the vision was 6/9. A few months ago he saw the patient and he had seen quite well ever since; the fields, however, had undergone contraction to 10°. Another successful case he had followed for nineteen years. In a case he had operated on for acute glucoma the patient retained good vision for the rest of her life, which was twenty-seven years.

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## DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,

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### Vaccina Generalisata.

In the *Journal of Cutaneous and Genito-Urinary Diseases* for February, 1902, M. L. Heidingsfeld, Cincinnati, reports the following case:

Girl, aged five years, vaccinated April 10, 1901. Vaccination

successful, having pursued a regular uneventful course. On May 2 a bullous eruption appeared over both ankles and wrists; bullæ numerous over these areas, varying from a split pea to an English walnut in size—arising from an uninflamed base and filled with clear serum; sensitive to pressure and distressing to patient, who manifested slight pyrexia, anorexia and general malaise. Eruption first manifested itself the preceding day, in the form of minute vesicles, without apparent subjective symptoms; at that time vaccination pustule had already healed, scab had fallen away, leaving a slightly reddened, pigmented, depressed and cicatrized area—evidences of a successful and completed vaccination. On following morning larger bullæ of the preceding day had spontaneously ruptured, the split-pea vesicles had assumed the size of pigeon eggs, and a crop of minute vesicles appeared in the intervening normal areas and for a considerable distance further up the extremities. This process repeated itself from day to day, vesicles of one day assuming the size of large bullæ the next, rupturing on the third or fourth day, leaving a denuded, exfoliated, reddened surface, which in the course of ten days healed with slight pigmentation, and without cicatrization.

Eruption gradually extended up the extremities, and later involved trunk, face, and scalp, leaving no surface uninvolved, and prolonging its attack over an interval of three months. Mucous membranes were uninvolved. Child had no previous dermatological affection and no pruritus in any form.

During this period emaciation and cachexia were marked, and slight pyrexia, 99° to 100°, was constant. Child has since made a complete recovery, appearance is good, weight normal, and skin is as clear and healthy looking as prior to attack.

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### Colloid Degeneration of the Skin.

In the *Journal of Cutaneous and Genito-Urinary Diseases* for February, 1902, Charles J. White, of Boston, Mass., gives the following description of a case of this rare form of cutaneous disease:

Irishman, aged fifty-two years, gate-tender. Four years ago the lesions were noticed upon the back of one hand, and during the following two years many similar nodules developed on the exposed parts of the body and have persisted until the present time. Complains of no subjective symptoms, and came to the Massachusetts General Hospital solely on account of the abnormal condition of his skin.

The individual lesion is a smooth, flat papule from ⅛ to ¼ of

an inch in diameter, irregularly rounded or polygonal in outline, exceedingly translucent and yellowish-brown in color, and soft, elastic, and almost gelatinous to the touch. The papules project perhaps ⅛ of an inch above the surface and present a very unusual appearance. They are situated on the backs of the hands, radiate in an acute angle from the outer canthus of each eye, occur in lesser numbers on the cheek, and entirely cover the whole surface of the tragus, antitragus and pinna of each ear, giving the latter a notched look when seen in profile.

On the alæ of the nose there are groups of large black comedones and here and there are yellow concretions, polygonal in shape, filling up the mouths of the follicles. The nose, as a whole, is rather increased in size.

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## Vegetating Dermatitis Developing During the Course of Infantile Eczema.

In the *Journal of Cutaneous and Genito-Urinary Diseases* for February, 1902, G. W. Wende, of Buffalo, N. Y., described the following:

Child, six months old, reported healthy at birth, nursed by her mother, and well until she was five weeks old, when a seborrheal eczema developed at the vertex of the scalp, which in four months spread over the entire scalp. When four months old, and during an almost complete remission of the eczema, peculiar lesions, first small and few in number, attacked the eczematous area, some appearing in groups while others were diffused. Others soon appeared, the older ones increasing in size, some becoming in a very short time as large as a walnut.

On examination the scalp still showed traces of the seborrheal eczema, but none was found on other portions of the body. On the scalp there were ten well-developed lesions, varying in size from a pea to a hickory nut. These were well raised above the surrounding surface, and were covered with crusts in which matted hair was embedded. On the forehead, near the median line, were two papillomatous lesions of filbert size, with uneven surfaces, covered with crusts, the entire mass being firm to the touch. The lesions were well defined and the surrounding surface seemed healthy. On the right cheek, on a line with the nares, was a lesion surrounded by seven small discrete pustulo-papules, varying in size from a pin-head to a large pea. The small lesions contained very little pus at their apices; their bases were reddened and raised. On the left cheek was one large lesion the size of a fifty-cent piece and one inch deep, composed of coalescent lesions; at two points a small amount of pus could be pressed out, and the most gentle manipulation resulted in bleeding. On the left

leg, over the anterior surface of the tibia in its lower third, was an incrusted lesion about the size of a silver dollar. During the lapse of two weeks a number of minute isolated pustules appeared on the chest, which showed upon examination, three days later, small isolated pustulo-papules extending over an area three inches wide by five inches long. There were about thirty of these lesions from a pin-head to a dime in size, raised above the surface, each one of them surmounted by miliary pustules. Three of them appeared papillomatous and formed circular reddish plaques.

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### Early Symptoms of Cancer of the Penis.

In the *Journal of the American Medical Association* for February, 1902, Henry H. Morton, of New York City, states in part:

Malignant disease of the penis occurs invariably as epithelial carcinoma and begins with about equal frequency on the inner surface of the prepuce or upon the glans. It appears most frequently as (1) a wart or warty excrescence; (2) a small nodule or knot of induration under the surface of mucous membrane; (3) a superficial excoriation or raw patch, resembling the erosions found in balano-posthitis; (4) an ulcer resulting from transformation of a chancroid or the breaking down of an old cicatrix, or sometimes from the crack or tear on the margin of a tight foreskin; with extreme rarity from the extension of the malignant process outward from the urethra or upward from the scrotum.

As the cancerous process extends only by continuity, its advance through the corpora cavernosa is not rapid, but the lymphatics readily take up the infectious material, carry it to the glands in the groin, and these are usually involved quite early in the disease. The inguinal lymphatic glands are often the seat of mixed infection if pyogenic bacteria have been conveyed to them through the lymphatics and cause them to become inflamed and suppurate.

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## GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

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### The Mechanism of Phantasmal Pregnancy.

The question of imaginary, false, or psychic pregnancy (*Gaz. degli Ospedali*) is not new, though it is not adequately illustrated in manuals of obstetrics. The recent case of the

Queen of Servia has induced Pohl, of St. Petersburg, to publish a marked case, and has led him to reconsider somewhat the pathology of these anomalies in the sexual life.

According to him four conditions are necessary for the construction of this phantasmal condition.

(1) An irresistible desire to become pregnant.

(2) A complete knowledge on the part of the patient of the symptoms of pregnancy, and of the corresponding changes in the organism.

(3) A continued examination of herself on the part of the patient, with a view of interpreting in accordance with her desires the first symptoms that can be compared with those of pregnancy.

(4) A mistaken diagnosis on the part of nurse or obstetrician, in support of the autosuggestion of which the poor woman is already the victim.

Snegirew, during his 30 years' practice, has encountered an immense number of phantasmal pregnancies, on an average one to four a year.

Pohl among two or three clinical cases relates one case of a woman of 20 years who had all the most complete phenomena of pregnancy, so that at the end of the ninth month the nurse was called and prepared her for immediate parturition. The first stage of labor commenced typically. The nurse did what was necessary and told her that all was well. She put the patient to bed, having first prepared the bath for the new-born, and to assist the process of parturition began to rub the sacrum to facilitate the uterine contractions. The woman menstruated at first regularly, but this latterly entirely ceased. After 12 hours of waiting, nothing happening, a young obstetrician was called. He found parturition to be difficult and prescribed a hot bath, and hot vaginal douches. After waiting some hours longer an old obstetrician was called; he confirmed the diagnosis of the younger one, and asked that he be summoned when the uterine orifice should be dilated to three inches. After a further delay, the old obstetrician was again sought for, but not being found, Pohl was called into the case and finally elicited the true facts of the situation.

This case is important as demonstrating the importance of the elements mentioned above. The woman would have been unable to construct such a phantasmagoria if she had not at another time familiarized herself with all the facts relating to pregnancy.

## Age of First Menstruation on the North American Continent.

G. J. Engelmann (*New York Medical Journal*, Feb. 15, 1902) has made an exhaustive research of this subject. He says that a careful review of the facts presented shows the exceptional position of American women, as to the time of functional development, very much more precocious than the women of other continents in the same region of the temperate zone, more precocious than the peoples from whom they have sprung—an average age of 14 on this continent and of 15.5 in Europe. The present inhabitants of this country are more like the true native American, the American Indian, who matures at an earlier age than the people of any other land in the temperate zone. Then, too, there is but little difference between the extremes in this country—at most one year, from 13.5 in the girl of highest refinement and education, to 14.5, which is the period for the American born of Irish and German parentage among the laboring classes; practically the difference is only 0.5 year—13.8 among the mass of schoolgirls, to 14.3, the average age for the great body of laboring women.

Climate does not appreciably influence pubertal development within the temperate regions of the North American Continent; the age of first menstruation is the same (14.3) among the laboring classes in Ottawa, Montreal, Boston, and St. Louis; women of the same class and group attain puberty at the same age, whether in the northern regions of Canada or the warmer climates of the Middle States. Racial characteristics, well-marked in European countries, here rapidly fade away, barely noticeable in the very first generation.

The native American is more precocious than the American born of foreign parents; but the latter, while somewhat later than the girl of American parentage, much more closely approximates her than she does the woman of her native country. The difference due to social status as indicated by the laboring class of the dispensary and the better situated from private practice is inappreciable—14.2 and 14.3—while in European countries this causes a difference of fully two years in the time of pubertal development—frequently more.

Climate here has practically no influence; race, very little; mentality, surroundings, education, and nerve stimulation stand out prominently in this country as the factors which determine precocity.

# THE MEDICAL AGE

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## ORIGINAL CONTRIBUTIONS.

### A MIXED CLINIC IN A COLORED HOSPITAL—MUMPS, EMPHYSEMA, CONJUNCTIVITIS, LOBAR PNEUMONIA, LUNG INFLAMMATION, HYSTERICAL APHONIA, AND HEMIPLEGIA.*

BY LOUIS FAUGÈRES BISHOP, A.M., M.D.

*Case 1.*—This man is twenty-nine years old, a native of Georgia, single, and a hostler. His family history is good. He was ill two weeks before admission, when he had severe pain in the region of the right ear; following this he had a swelling behind the angle of the jaw and extending up upon the face. He had a good deal of fever, so that when admitted his temperature ranged as high as 104°, pulse 120, respiration 30. During the next four days his temperature fluctuated between 101° and 103.8°, after which it gradually came down until now it ranges between 99° and 100.5°. The only thing that he has complained of all this time has been the swelling behind the angle of the jaw and the pain that went with it, also his inability to open his mouth.

This swelling, as we have examined it from time to time, has run up in front of the ear and extended over the ramus of the jaw so that it occupies just the position that we know to be occupied by the parotid gland. The man has had no chill; he has had some sweating, but no other signs of suppuration. Suppuration is always indicated by chills, fever, and sweating; the temperature of suppuration is also, as a rule, irregular, like the temperature of tuberculosis, but on looking at this chart we find nothing there to suggest suppuration; and then, again, there has been no indication of the formation of any abscess, and there is no fluctuation that would make us think there was pus present, so we come down in a diagnosis of this man's condition to some disease ac-

*Delivered in the wards of the Colored Hospital, New York City, Jan. 4, 1901.

companied by a fever and swelling of the parotid gland, but which does not go on to the formation of an abscess.

The question naturally arises whether we have to do with an attack of the malady known as "mumps." This is, as you know, one of the specific contagious diseases characterized by a swelling of the parotid gland and fever, going on to complete recovery. It would seem to me that in all probability this is what this man suffered from, although it has been a case of unusual severity and has been unusually prolonged.

This disease is one of the contagious diseases like measles or scarlet fever, but is not accompanied by any skin eruption. The diagnosis of this case is made by exclusion. When I first saw this patient it seemed to me that he was too sick for this disease, and I thought he would probably develop a suppurative condition of the parotid gland.

Suppuration of the parotid gland is not at all uncommon, particularly as a complication of typhoid fever and some other prolonged illnesses. When there is suppuration of the parotid gland the swelling is apt to follow less closely the outlines of the gland itself; there is generally some particular spot where the swelling is greater and where there is evidently a gathering. It is important for you to know of this complication, particularly in typhoid fever, because there is a very well founded belief that it is sometimes due to bad nursing. If the mouth is not kept perfectly clean in typhoid fever, sometimes the parotid gland becomes infected and goes on to suppuration. It is believed that this complication is comparatively uncommon at the present time, because more attention is given to cleanliness of the mouth during the course of this fever.

The mumps is liable to certain strange complications that we do not exactly know how to explain. A great many women who have mumps suffer at the same time from inflammation of the breast, and in men there is sometimes an inflammation of the testicle. These are common complications of mumps and make it important to take good care of these cases, because very severe breast inflammation can follow if a patient with the mumps is not properly nursed and taken care of.

The treatment in cases of mumps is simple. The disease runs a benign course and goes on to recovery, so that we simply make warm applications to relieve the pain, take care of the bowels, keep the patient in an even temperature, and wait for the disease to terminate, as it usually will in a much shorter time than in this man's case.

It is possible for mumps itself to be complicated by suppuration, but that is extremely uncommon.

*Case 2.*—This man is sixty-nine years old; he was born in Virginia, and is a laborer. He says that his general health has been fairly good, but this winter he has developed a cough. He presents the appearance of a man in fairly rugged health, and interest centers about the determination of the nature of this cough.

The heart shows a faint systolic murmur at the apex, but that is not probably of much importance.

As I percuss his chest what first attracts my attention is that the percussion note is of a peculiar character that sounds something like percussing a board. (Similarity in sound illustrated). I also find when I listen to his breathing that the expiration is a good deal prolonged—it takes a long time for the air to leave the chest after he draws it in. These are signs that we find in a condition of the lungs known as emphysema.

In a good many people the air vesicles become dilated, the walls of the vesicles are somewhat thin, and there is a considerable loss of elasticity. This disease we call emphysema, and it is rather a common disease in older people and is often accompanied by bronchitis. This patient does not seem to have had the cough every winter, according to his story, but it is the kind of a case in which we would expect an elderly person to have a cough every winter and to suffer more or less from shortness of breath.

It is not a dangerous condition at all, and he probably will not suffer very much from it, but it is one that you ought to know about because of its frequency. Chronic bronchitis and emphysema are terms that go together, and they are very often seen in elderly people who have a cough.

You notice he has no temperature, and he has none of the symptoms of an acute disease, so I can see no reason why now, after having been in the hospital for three or four days, he should not be up a good part of the time and have regular food and such medicine as will improve his general health.

*Case 3.*—This boy has had a severe conjunctivitis—inflammation of the lining of the eye socket and the outer covering of the eyeball—and I stop to show him to you because I think you ought to know how to treat these conditions, because slight attacks of the same disease are extremely common.

This is one of the diseases in which either heat or cold is available, and it is often a matter of indifference which we use. A good rule is that the one which gives the most relief is the one which will do the most good. However, when the inflammation extends over the front of the eye—that is, the cornea—and there is danger of ulceration (a very common complication in this form of conjunctivitis), then it is better to use heat, because

that rather improves the nutrition and the ulcers are less apt to extend. These eyes should also be treated with some antiseptic, because this disease is an infectious one, one that is caused by germs, and for that reason the eye should be disinfected. A concentrated solution of boracic acid can be dropped into the eye every few hours without doing any harm and often being of great benefit.

It is especially important to be particular about the isolation of these cases of conjunctivitis, because they are quite contagious, and often by contact with towels, etc., will infect a great many individuals in an institution.

This boy's general condition has been rather an obscure one. He complained when he first came in of indefinite gastric symptoms, and at that time he had ulceration of the corners of his mouth that made us think something of specific disease. However, with the good care he has received here and the hygienic surroundings, his general condition has improved.

Just how he contracted this conjunctivitis we do not know, but it has been of a decidedly severe type and has involved the surface of the eye, so that the cornea—that is, the transparent covering in the center of the eye—for several days was quite cloudy and had lost a good deal of its luster. Now the eye has recovered so that the cornea is again transparent and has regained its luster, so that I do not think there was any ulceration.

Ulceration of the cornea is a very common disease, particularly in children, and it is a disease of a good deal of importance, because the scars that are left often impair the vision. You have seen a little girl in another ward who is almost completely blind from ulceration of the cornea, which left these scars that she can not see through. This patient's suffering from this affection should receive special care. In case ulceration does occur and the vision is impaired, it is a condition for which nothing can be done. We cannot cut out these scars, because we would only be making another scar, and there is nothing that can be done to remove scars that come on the eye from inflammation. It is best to prevent conjunctivitis as much as possible by carefully isolating these cases and by taking care of them early with disinfectants, cold, and rest.

When I was lecturing to you in the maternity ward the other day, I told you about the use of nitrate of silver in the eyes of new-born children to prevent inflammation of the eyes and the resulting blindness. The form of conjunctivitis that I then referred to is gonorrheal. It comes from the specific germ that gets into the child's eye at birth, and it is the cause of very severe inflammation of the eye which often resulted in blindness until

the discovery of this preventive measure—the use of nitrate of silver. This form of inflammation—gonorrheal ophthalmia—may occur in grown people in case any secretions from this disease should get into the eye. When this occurs there results a very severe inflammation, which is very apt to destroy the sight. The treatment of it is with nitrate of silver, the same as in children, with all the other measures such as we used in this boy's case to reduce the inflammation and preserve the nutrition of the cornea. You ought to know about this form of conjunctivitis, although it is very rare. When it does happen, the eye may be lost unless very prompt measures are taken, and for that reason if a person suffering from gonorrhea, which is a specific inflammation of the mucous membrane of the vagina in the female and of the urethra in the male, should develop inflammation of the eye, the most expert advice should always be obtained and the eye should be treated as if it was just about to be lost. So, in your maternity work and in surgical work you must be extremely careful about disinfection of the hands, and great care should be taken to allow nothing to come near the eye that has been in contact with secretions of this nature.

This boy apparently has had a severe conjunctivitis, but in all probability not a specific one.

*Case 4.*—This boy is twenty-one years old, single, and a cook by occupation. He was well until about two weeks before admission, when he took a cold in his head, which was evidently what we call the "grippe cold" that is going around now. This cold went down into his throat and finally involved the lungs. About a week after the beginning of his cold he was taken with a severe pain in the right side and developed a fever. He came to us apparently on the sixth or seventh day after he developed these severe symptoms. On admission he had a temperature of 104°, pulse 106, respiration 40. The physical signs in his chest showed impaired resonance, bronchial breathing, a great many râles, particularly in the lower part of the right chest. He went on for the next three days with a high temperature, except on one occasion when the fever fell to normal for a brief period. On the third day after admission his temperature came gradually down to normal and has remained so. His temperature has been normal now for about five days, and there is nothing to be heard in his chest except a few râles on the right side.

We have then a boy who had a severe cold for a week; at the end of that time he had a severe pain in his right side and high temperature, and at the end of eight days of fever his temperature went down to normal and stayed there. The signs in his

chest have almost entirely disappeared, and he is practically well except that he is weak and needs building up.

This boy has had a fairly typical attack of lobar pneumonia, following an attack of the kind of cold that is quite common now in this city—not a typical grippe, but the kind of an attack that people are always more or less liable to at this time of year.

The crisis in this case happened a little later than the average. You know it happens most often on the seventh day, after that on the sixth, and after that on the eighth day, so that his is not so very much out of the average. This is often seen in pneumonia, particularly in cases that begin rather mildly.

His treatment has been simply that of support. We recognized his condition when he came in as a mild pneumonia, and we felt confident that it would subside in the course of a few days, so we took good care of him, but beyond a careful support of the heart he has had no treatment. He therefore presents the cheerful picture of a patient who has had pneumonia, but who has gotten well.

*Case 5.*—This is the man I told you about the other day with the valvular disease of the heart. His condition remains about the same.

*Case 6.*—This patient I have not seen before, so we will work out his case together. He is twenty-four years old, single, and a coachman. His family history is good. He had diphtheria once, and whooping-cough when he was a child. He gives the indefinite history that two years ago he spat up some blood, and since then he has had cough off and on, but was in fairly good health until three weeks ago. At that time he had a fainting attack, and since then he has had a cough, and it is this cough of which he chiefly complains. His temperature is normal, also his respiration; his pulse averages about 86. The heart is normal except that it is a little overactive: the sounds are louder than they ought to be, particularly at the base.

As I percuss, I want you to see whether you can notice the difference in the percussion note—duller on the right side than on the left. You notice a certain amount of hollowing out in the cavity here (right side below clavicle), and there is an impairment of the resonance there—when I percuss it is duller. When he speaks, as I examine from below upward, the voice gets louder toward the clavicle; when he whispers the voice also sounds louder than it does down below; when he takes a long breath I hear certain fine, moist sounds that indicate a local inflammation of the air vesicles of that part of the lung. That with his history would make us very suspicious of a local tubercular inflammation of that part of the lung, although the fact that he has no fever

and that his pulse is not particularly rapid, although it is increased over what it ought to be for a man lying in bed, makes us believe that this condition is not at all acute. It is enough to impair his general health and make him more or less below par, but his is not in any sense an acute condition.

*Case 7.*—This woman is twenty-five years old, single, and a waitress; previous history unimportant. Last October she developed sudden paralysis of the left side of the body, and a little later she seems to have had an attack of paralysis of the right side of the body. When she came in, something over two weeks ago, she had the signs of this left-sided hemiplegia, and had also loss of voice. I have not at any time made a very careful examination of her, but on going through the ward and learning that she had lost her voice, and being unable to reason out any possible cause for the loss of voice in the paralysis (we have had a great many cases of paralysis in the hospital, as you know, but we have not had any of them that have lost voice in this way, and not one whose voice was even husky after a stroke of paralysis) I concluded that this was a case of aphonia known as hysterical aphonia—that is, it is a functional loss of voice; there is nothing wrong with the organs of speech, but they just will not work. This form of aphonia is not at all uncommon and is quite peculiar. A person loses his voice and cannot speak, and although there is nothing the matter with the vocal cords that we can discover, they will not work. It is undoubtedly a nervous affection allied to the disease known as hysteria.

I have in my private practice a woman of unusual intelligence who has these attacks; when she has them she sends for me with the request that I bring my battery. I give her a few shocks of electricity to the throat, and her voice comes back and she has no further attack for perhaps a year. Dr. Welsh restored this patient's voice in the same way—by a few applications of electricity to the larynx. It does not seem reasonable that the electricity accomplishes a great deal in changing the vocal cords, but I believe it has some other effect, something mental. Sometimes in a case like this the voice will be regained if the person has a fright—the patient becomes suddenly frightened and cries out, and after that the voice comes back. It may be that electricity acts in something the same way, by making a profound impression upon the patient, making him think he can talk, and then he really can—at any rate, this patient's voice has been restored, which demonstrates the fact that I was right in saying it was hysterical loss of voice.

Now the question arises, since we have detected this form of hysteria, whether the paralysis is also of the same nature.

Hysteria is a disease that is of great interest to physicians and nurses because it can imitate almost any other disease, and can imitate it so closely as to deceive every one at the time. I could spend the whole afternoon from now on until dark telling you about cases of hysteria that I have seen and studied, and not a few of them deceived every one who saw them.

It is a disease of the mind and of the nerves in which the nerves and the mind are functionally disturbed, and in which the patient is entirely unconscious of the existence of the disease. Hysteria is a real disease, and there is no sense in making a joke of it or in making light of it. It is one of the worst diseases that a person can possibly have—that is, in its bad form. I know of a great many people who are entirely incompetent to take their part in life because they suffer from hysteria, but on the other hand hysterical symptoms are common to a great many people. There is not a woman in the world, if she is a real woman, who is not sometimes more or less hysterical—that is, the emotional nature overrides the self-control—but that is a different thing from hysteria. The crying spells that children sometimes have and fits of temper of older people are hysterical, but they are not true hysteria. This patient's attack of aphonia, loss of voice, was an example of true hysteria, which is a very definite disease, and a disease that we can diagnose just as certainly as we can diagnose typhoid fever or pneumonia. However, the diagnosis of hysteria is not so easy, and for that reason I am going to put this patient through a regular examination of the nervous system, and perhaps we will find that her hemiplegia is hysterical. That I cannot tell until I examine her; the fact that it has shifted from one side to the other of course is very suspicious.

One of the chief things that we do in examining a patient for hysteria in which the hysteria imitates other diseases is to make a physical examination.

The patient complains that she cannot move her left leg. Now, I have taught you a great many times that in hemiplegia of cerebral origin in which the trouble was here (front part of top of head) the patient has lost control over the leg and the knee-jerk is exaggerated. You notice that the knee-jerk in this patient is if anything a little greater on the sound side, and that is contrary to what we find in true hemiplegia. (Patient's arm raised even with the shoulder and allowed to drop.) You notice how different that is from the way the arm drops in true hemiplegia; in this case it drops very gradually, and there is more or less control over it. The leg also does not drop as it usually does in paralyzed people, but goes down gradually. There is also a great deal of tenderness along the spine. We need not go further to

prove that she has not the ordinary hemiplegia—the knee-jerk is not increased; and although she says she cannot move her arm and hand except the fingers, still, when I lift her arm up and let it drop, it comes down quite gradually, showing that there is a certain amount of power there, and with the leg it is the same way. The extreme tenderness along the spine is also a very common accompaniment of functional nervous disease.

One of the most characteristic symptoms of hysteria is the loss of the sense of pain, and this I will test. You notice that I can stick this pin, which is quite sharp, as you can feel, into her in a great many different places and she does not complain, showing that the pain sense is lost in certain parts of the body, and this we always find in hysteria.

That explains a great many things even in history. You know history tells of people who have been tortured and have undergone all kinds of suffering for the sake of religion or some other cause that has profoundly affected them. There is no doubt at all that people under a great many conditions lose the sense of pain, and although we may feel sorry that the martyrs were put to death, still there is no doubt that a great many of them never felt the pain at all, because they were in an excited state resembling hysteria; and it is the same way with criminals, who very often have lost the pain sense. There are certain criminals who are not affected by punishment; they can be flogged or tortured in various ways, but are entirely indifferent; they get credit for being very brave, while in fact they have lost the sense of pain. We might cut this woman's arm and do a great many things to it, and while she would be conscious that something was being done, it would not hurt her—that is quite characteristic of hysteria. Another symptom of hysteria is the anesthesia of the cornea. You notice I can rub my finger over her eye and it does not cause her any discomfort; but while this is undoubtedly present in hysteria, the sensitiveness of the eye varies so in different people that it is not at all a certain sign of hysteria.

She has not had any hysterical symptoms at all, and that is interesting in connection with what I told you about the difference between true hysteria and hysterical symptoms in women and men. She has no hysterical symptoms at all, and yet she is suffering from hysteria major, the severest form of hysteria, which has caused the imitation of hemiplegia, and which caused the hysterical aphonia, the cure of which by electricity demonstrates to us the existence of this disease.

I told you that I would not recite any cases, but I had one that was so remarkable that I think it worth while to recount it.

When I was resident physician at St. Luke's Hospital, a con-

sumptive hospital was annexed, and all the patients were moved in there at one time. Among these patients there was a woman who told us that she had had spinal meningitis that had caused her to lose power of motion in both her arms and her legs. She complained of extreme pain in the back, and she was brought in with the other consumptives. She looked just as bad as any of them, was emaciated, completely paralyzed, and altogether a pitiable object to see. In the other institution, where they were more kind-hearted than judicious, they had been giving the woman all the morphine she wanted to relieve her terrible sufferings. She had been in the hospital for about a week or so before I had time to examine her, and when I did I found that her lungs, which were supposed to be far advanced in consumption, were only moderately involved. I found that her nervous symptoms did not correspond to any nervous disease that I was familiar with, as I knew of no nervous disease that would paralyze both arms and legs and leave the reflexes unimpaired; so I decided that she was suffering from hysteria that had imitated advanced consumption, and that had imitated complete paralysis. The woman really would have died if we had not diagnosed her condition. We started in to treat her accordingly, making her eat, getting her up in a chair and holding her there, and taking her out-of-doors. I went in and talked to her every day, telling her that she could move her arms and could move her legs. Finally she commenced to move a little, and then she began to eat more, and, to make a long story short, in the course of two months we had that woman out-of-doors walking around in the sunshine. She had been sent to us as one of the cases in the last stages of consumption, who was also suffering from terrible spinal disease. I cite this case to show you what hysteria can do in the way of imitation.

Hysteria can also imitate any joint disease. I remember another woman who was supposed to have hip disease, and when we finally put her under an anesthetic and examined her carefully, we found that her hip was absolutely sound. Hysteria had in her case imitated hip disease so strongly that her hip was as stiff as in the case of any of the patients here who really have hip disease. Her case was incurable, not on account of the joint trouble, but because hysteria of this severe type is very hard to cure permanently. The patients may be cured of one condition, but they are very apt to develop another.

This patient has a milder attack of course, but a very typical one, and she must be treated by moral measures. She must be gotten up out of bed, given electricity, and general measures must be adopted to get her walking around. She must not be treated

as if she was doing anything wrong, because she is entirely unconscious of the fact that this paralysis is imitated. She has also these back symptoms, which if unassociated with the other signs of hysteria might give us a good deal of trouble in diagnosis. Pain along the spine, the inability to sit up, etc., all resemble very closely disease of the bones of the back, but in the presence of the hysterical hemiplegia, and with the history of her loss of voice that was cured by a few applications of electricity, I have no hesitancy in pronouncing her spinal symptoms of the same nature.

*Case 8.*—This woman we have looked at several times, and I only want to exhibit her again to show you why it was so easy to exclude true hemiplegia in that other case. When we tap her knee you notice that the paralyzed side gives a very decided reaction, and when I lift her arm it goes down as an absolutely dead weight, while in the other patient's case the arm dropped gradually.

It is not every case of hysteria that is as easy to diagnose as that one was. Some of the cases will imitate other diseases so closely that you cannot find any defect in the picture at all. This is particularly true of people who are more intelligent and who know what the disease is like. Such hysterical people become morally weak and help along their imitation by knowledge of the disease, and that of course makes it extremely difficult to diagnose the case. There is another type of hysteria, but hysteria is such a big subject that I think I will drop it for the present.

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## SURGICAL TREATMENT OF HYPERTROPHY OF THE PROSTATE.*

BY MAX BALLIN, M.D., DETROIT, MICH.

Hypertrophy of the prostate gland was considered hitherto an attribute of old age and very little available for radical treatment. The unfortunate patients who came to us complaining of urine retention, dribbling, pain, etc., were usually advised how to use a catheter, and discharged with the poor consolation that this belonged to old age, just as does the gray hair, the wrinkles, and the eye-glasses. Progressive surgery seems in the late years to invade this region also, which was so far considered not open for operative interference. We have all reason to welcome this progress, considering on one side the large number of patients affected with this ailment, and on the other the sufferings and dangers of

*Read before the Wayne County Medical Association, Feb. 27, 1902.

catheter life, which was so far the only relief, if any, for the affected.

Henry Thompson and others found that in one-third of all men over fifty-five years of age the prostate gland is enlarged, and in one-seventh of these the enlargement causes the well-known symptoms of hypertrophy of the prostate. Furthermore, we meet hypertrophy of the prostate not only in old age, but also in earlier stages of life; every practitioner knows cases where the suffering began at fifty or less, and some authors report cases where the whole complex of symptoms, urine retention, and enlargement of one or all lobes of the prostate existed at the age of thirty to forty years. And all these unfortunates—that is, nearly every twentieth man over fifty-five years, and a good many before that age—were obliged to use a catheter more or less often or even regularly to get relief from the painful urine retention.

But the catheter given to a patient is a dangerous instrument. The modern physician knows aseptic catheterism, and even uses this knowledge sometimes in practice, but only a very few of the patients learn to introduce the instrument cleanly; most of them, in consequence of poor conditions or carelessness, have their instrument in their pocket or in some soiled paper, use some rancid oil or vaselin or saliva as lubricant, and then we see all the complications of hypertrophic prostate, arising from the germs introduced in this way; alkaline disintegration of urine, cystitis, stone in the bladder, orchitis, pyelitis, and nephritis. I have to mention only in how many cases catheterism is rendered even impossible on account of congestion of the prostate or of the tortuous course of the prostatic urethra. False passages, abscesses, fatal urine infiltration, are met with often as consequences of difficult or impossible catheterism. No doubt the catheter is a dangerous treatment for prostatic hypertrophy, causing much harm, so that the catheter-life does not last long, mostly not over four and seldom up to ten years. Many lives of usefulness are lost in this way. Considering all these disadvantages of the catheter treatment many prominent surgeons of Europe and America have endeavored to find some better way of helping the sufferers, and several methods of surgical procedure have been proposed.

1. Operations changing the nutrition of the prostate: castration, vasectomy, and ligature of the internal iliac artery. After observing that castrates never suffered from hypertrophy of the prostate gland, Ramm, the Norwegian surgeon, and White, of this country, nearly simultaneously about twenty years ago performed castration for the cure of hypertrophy of the prostate. The operation was well received—a sign how a cure for this ailment was wished for! White reported 111 cases, Bruns 148

cases, Socin 175 cases of castration. The results after Socin were 13.5 per cent mortality, 45 per cent cures, and about 25 per cent without any benefit.

Later the castration was changed to resection of the vas deferens—vasectomy—for obvious reasons. Some surgeons resected the vas deferens alone; some considered it important to resect the surrounding nervous plexus with the vas deferens. A. Koehler of Berlin, and Helferich of Greifswald, compiled the statistics of the vasectomy. The results were about the same as in castration, except the mortality, which was lower in vasectomy, amounting to about five per cent.

But neither castration nor vasectomy could retain any place in surgery; only a very few surgeons practice the operations now as treatment for hypertrophy of the prostate. The reasons are: Castration is even by patients in the advanced age not readily permitted for obvious reasons; and the great amount of total failures after the operation was no special inducement to overcome this antipathy. First one thought that only in the large, soft swellings of the prostate success after castration or vasectomy could be promised; but statistics showed that the hard, fibrous form as well as the soft glandular type showed successes and failures alike. So there was no possible chance of promising a patient beforehand with safety a success of an operation disliked anyway by every man. This is why castration and all minor substitute operations were almost entirely abandoned in the treatment of prostatic hypertrophy.

In the same way as castration should act on the hypertrophic prostate by neuropathic influence, ligature of the internal iliac artery should reduce the size of the gland by diminishing the blood-supply. The formidable operation was done in very few cases by Bier of Kiel and Willy Meyer of New York, but not imitated on account of the mortality, risks, etc., even if good results were reported.

2. Suprapubic fistula was and is still practiced in many cases of prostatic hypertrophy. From the experience to relieve urine retention by suprapubic aspiration if the urethra was impermeable for any catheter, the idea offered itself to establish a permanent suprapubic fistula. Objections to this operation are, first, the permanent dribbling of the urine from the fistula. Neither wearing of closing apparatus nor formation of a kind of artificial urethra through the bladder and abdominal wall in similar way as in gastrostomy after Kader and Witzel would give satisfactory results as to continence of such fistula. Another objection to the suprapubic fistula is that even when a free outlet of the urine was established infection of the bladder was mostly not only not bet-

tered but even rendered worse, very probably on account of the free communication of the bladder with the outside.

3. Bottini's operation: prostatotomy. The operative procedures considered so far have in my opinion more historical than practical interest. We will proceed now to consider two methods which promise to dominate in future the treatment of prostatic hypertrophy: the first is the galvanocaustic incising of the prostate (prostatotomy or Bottini's operation); the other is the radical removal of the gland (prostatectomy).

In 1875 Bottini, of Pavia, Italy, constructed the first galvanocautery for incising the hypertrophic prostate, but the instrument was not received well at the time. Bottini describes quite sadly how all his efforts, all his pains in constructing the instrument and the necessary storage battery, were in vain. His countrymen would not recognize him. He mentions accidentally in the same paper the interesting fact how a contribution of his about the germicidal qualities of carbolic acid, which he published two years before Lister's eventful publication on the same matter, was rewarded with silence by his countrymen. Bottini therefore went to Berlin to demonstrate his instrument, and in 1897 Freudenberg of that city improved the instrument to the shape in which we use it now, and in which Willy Meyer introduced it first in this country.

Bottini's well known instrument, modified by Freudenberg, consists of a cable, to connect the instrument with the storage battery, and a cautery knife, which is ordinarily hidden in a catheter-shaped mantle, but when in action is drawn through the tissue by means of rotating a little wheel on the handle of the instrument. The whole apparatus is cooled during use by a stream of ice water which circulates through the mantle. The instrument is introduced as an ordinary catheter, and after the beak is in the bladder it can be turned and hooked against any part of the prostate we want the cautery applied to. We usually make one to four incisions—one in the posterior, one in the anterior, and one in each lateral lobe, just as the shape of the prostate requires it. The incisions are made in a length of one to four centimeters, which we can read on the graduated handle of the instrument. The operation can be done under local cocaine anesthesia, but is performed better under chloroform or ether anesthesia.

In the first years this instrument was used many accidents happened, particularly by hemorrhage, and this brought the Bottini operation somewhat to discredit. But later one learned how to avoid these accidents; the main fault was that the diagnosis of the cases was not perfect.

On this occasion I may be allowed to make a few remarks

about the diagnosis of cases of prostatic hypertrophy. The examination should be carried on as outlined in the following:

I. Urine: (*a*) Quantity; (*b*) reaction; (*c*) chemistry; (*d*) microscopy.

II. Finger and catheter examination: (*a*) Residual urine; (*b*) length of urethra; (*c*) shape of prostate; (*d*) floor of bladder; (*e*) concretions.

III. Cystoscopy.

The examination of the urine has to be complete before operating on these cases; the quantity of urine is important, as many of the patients died by uremia after operation, which can be avoided sometimes, if the quantity of urine is found to be small, by giving saline enemata and diuretic waters before and after operation. Alkaline reaction of the urine renders the prognosis of any operation grave, and should be treated first if possible by bladder irrigations. Albuminuria and pus in the urine are naturally also factors to be considered in selection of cases for the various operations.

After the urine examination we proceed to catheter examination, and combine the same with finger examination from the rectum. In this way we determine first the quantity of residual urine—that is, the urine which is left in the bladder and drawn by catheter after spontaneous micturition. The amount varies from drachms to 30 to 40 ounces, and enables us to draw conclusions as to the elasticity of the bladder. The residual urine is also one of the main factors by which we judge the results of our operations. Then we search with the catheter for stone, and after this we try to map out between catheter and finger in the rectum the shape of the prostate, the floor of the bladder, the depth of the bas-fonds—that is, the distance from the internal opening of the urethra to the rectum. We best use a catheter with short beak, of the shape of Bottini's instrument. We can determine with the same also the length of the urethra, and in this way draw conclusions as to the directions in which the prostate is mostly developed. This is an important part of the examination; you can imagine how we can get in this way a picture of the prostatic development and determine if there be a prominent middle lobe, large lateral lobes, etc. We can also determine whether a cutting operation or the Bottini operation promises better results; and if the Bottini be decided upon, where and how long we shall have to make our cautery incisions, and how to avoid the urethra, the place from which dangerous hemorrhages start.

Cystoscopy will be a good control examination in some cases for the conditions revealed already by catheter and finger exam-

ination, and also show trabecular formation, etc.; but cystoscopy leaves even well experienced examiners in the dark on account of the irregularity of the bladder floor and walls in these cases.

We now come to the question: What are the results of the Bottini operation? Horwitz, of Philadelphia, compiled in November, 1901, 888 Bottini operations. The results of these were: 51 (5.7 per cent) deaths; 88 (10 per cent) were unimproved; and 715 (84 per cent) were cured or improved. I can increase these statistics by 12 cases of Guiteras without a death; H. H. Young, of Baltimore, reported 41 cases without a death; and I myself did the operation eight times without a death. Adding these 71 cases to the 888 of Horwitz would lower the death-rate to 5.3 per cent. These statistics show also that the Bottini operation gave better results and had a lower death-rate in recent years, since we make a better diagnosis of the shape of the prostate, since we learned how to avoid hemorrhages, since we adapt the length and direction of our cautery incisions to the individual differences in size and shape of the prostate. The results are surely encouraging: 84.3 per cent cures and improvements; the fatal cases were often those which were complicated by kidney disease. We call those cases cured which do not require the catheter any longer, and in which residual urine is not found any longer; we regard as improved those cases in which some urine is left, but in which there is no more need for catheterism. The results seem to be permanent, as only in a very few instances the operation had to be repeated. There does not exist any doubt in my mind that the results will be still better with improvement of our diagnosis, with the use of cautery knives of different lengths and curvatures as they were recommended recently by H. H. Young, of Baltimore. Perhaps also the perineal galvanocautery of Dr. Chas. Chetwood, which is introduced by the aid of a perineal urethrotomy, may be a better instrument for certain cases. P. Kraske very lately suggested to watch the action of the cautery knife by a suprapubic cystoscope he constructed. There is no practical experience about the new instrument so far.

Prostatectomy is the radical extirpation of the prostate gland, which can be done by two routes, the suprapubic and the perineal. The prostate lies about the same distance from the upper edge of the symphysis pubis as from the perineum, and a considerable distance from either place. This allows us to understand how some operators took the suprapubic, some the perineal, way for the incision, but all tried to bring the prostate nearer to their incision by counterpressure from the side opposite to their incision. For this purpose even combined operations—that means suprapubic plus perineal incisions—were practiced.

Dittel and W. J. Delfield, of Chicago, not McGill as many claim, were the first to operate on the prostate, the former by the lateral perineal, and the latter by the suprapubic way. But their operations were very bloody, and hence dangerous. I think the credit is due to Nicoll of having removed the danger of bleeding by intracapsular extirpation of the prostate. If we open the capsule of the prostate we can in most cases peel out the different lobes with the finger, just like a subserous fibroma of the uterus, without any hemorrhage.

A further progress in these operations was achieved by leaving the large incisions, as they were practiced by Dittel and others, and which were not borne well by the old men. A third demand for a successful prostatectomy is good drainage after the operation to avoid septic infection. Drainage has to be accomplished by the incision or the incisions, and also through the urethra by means of a permanent catheterization. Again, the three main features of modern prostatectomy are intracapsular extirpation, small incision, and good drainage after the operation. I will mention only briefly the different methods of operations:

Nicoll combined suprapubic and perineal incision, and drained afterward both ways.

Alexander made the perineal incision through the membranous urethra, and did otherwise like Nicoll.

Syms pulled the prostate down by means of a soft rubber balloon, which he introduced through a boutonniere fistula. The balloon was introduced in an empty and collapsed condition and then filled with air. The prostate was extirpated after being pulled down through a perineal incision.

Ferguson, of Chicago, lately employed a prostate retractor instead of Syms's rubber bag. He introduced the catheter-shaped retractor just like a catheter; then the peak was turned down and backward, and by elevating the handle around the symphysis the prostate is pressed down toward the perineum and extirpated through a perineal incision.

Guiteras employs the vesicorectal method: incising suprapubically and pressing the prostate upward with the finger introduced into the rectum. Afterward he drains through a perineal urethrotomy and also through the suprapubic opening. Guiteras also employs a perineal way, making counterpressure from the prevesical space through a small suprapubic incision, which does not open the bladder.

Fuller and Rockey extirpate the prostate from a suprapubic cystotomy. Fuller makes counterpressure from the perineum, Rockey from the rectum.

I consider the method of Rockey the best for the suprapubic

way, and Ferguson's method the best for the perineal way, as in both only one incision is needed. I have myself some experience in three cases of suprapubic prostatectomy, and succeeded always with the one incision, pressing the prostate upward from the rectum. If we employ the suprapubic or the perineal method depends upon the case. Some prostates grow more toward the bladder, others more toward the perineum. In fat people we will succeed better from the bladder; in lean persons the perineal route will be satisfactory. Also here a good diagnosis will give the decision.

As to results of prostatectomy: Guiteras compiled 152 cases with 25 deaths (17 per cent) and 17 failures, the balance being cures and improvements. But let me say, the younger the patient, the less complicating bladder and kidney diseases are present, the more successful the prostatectomy will be. But also in this operation I can say, as in the Bottini method, the later statistics show better results. J. D. Murphy published eight cases without a death, Ferguson six cases without a death. I had a small experience only of three cases without a death. Adding these 17 cases to the 152 of Guiteras's statistics, will give 169 cases with 25 deaths—14.8 per cent.

*Comparison of Bottini's Operation and Prostatectomy.*—There is one more question to answer: Which operation is preferable, Bottini or prostatectomy? The comparison of the results would show:

| | Good Results. | Failures. | Deaths. |
|---|---|---|---|
| Bottini | 84 per cent. | 10 per cent. | 5.3 per cent. |
| Prostatectomy | 72 per cent. | 11 per cent. | 14.8 per cent. |

This speaks in favor of the Bottini operation; but some other points have to be considered: First, some cases cannot be treated with the Bottini operation; maybe the prostate, on account of its shape—for instance, a small valvular-like shape—is not within reach of the galvanocautery, or the course of the urethra may not allow the introduction of the Bottini instrument. This happened in one of my cases, where false passages rendered the introduction of the Bottini instrument impossible, and prostatectomy by the suprapubic route had to be resorted to. A complicating stone in the bladder may require an incision anyway, and would therefore indicate prostatectomy. Kidney diseases are a grave complication for both operations, but more so for prostatectomy. Very old age is not a strict contraindication against the radical procedure, as several successful cases of prostatectomy on men between seventy and eighty years of age are on record, but the cautery operation is easier borne. Generally speaking, relatively young patients with very large prostates, cases of valvular growth of the prostate, cases of impermeable urethra,

cases with stone in the bladder, and all cases in which the Bottini operation has failed, require prostatectomy. Otherwise the galvanocaustic operation is the safer, and in the greater number of cases the more reliable, procedure. Good and complete diagnosis will aid us in selecting the more preferable operation.

Allow me to make the following conclusions:

1. The regular use of the catheter in hypertrophy of the prostate gland is dangerous, as it causes inflammatory processes in bladder and kidneys.

2. Therefore prostatic hypertrophy with retention of urine, which would necessitate to use the catheter several times a day and to give the catheter into the hands of the patient, ought to be treated by operation.

3. Bottini's operation is preferable and sufficient in most cases; some cases are better treated by prostatectomy.

4. A good diagnosis of the kind and shape of prostatic enlargement and of all complicating factors—cystitis, nephritis, etc.—is essential for the right selection of the suitable operation, and also for the successful performance of the operation.

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## THE MODERN THERAPY OF GONORRHEA IN THE MALE.

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Since the discovery of the gonococcus by Neisser, nearly two decades ago, much has been done to simplify the treatment of this disease, so that to-day we have a few methods which if fol-

lowed with care will ultimately bring us to a cure in this troublesome affection.

Upon the presentation of a case of urethritis the first thing that the physician has to find out is whether or not he has to deal with a case of specific or non-specific urethritis, and whether the disease is affecting the anterior or posterior urethra or both. In order to determine if the diplococcus be present or not, recourse must be had to the microscope, and it might be said in passing that it is impossible to treat intelligently a gonorrhea without the aid of this instrument of precision.

To prepare the specimen for examination requires but a few minutes. Smear the slide with a small drop of the pus, pass it through a spirit lamp or Bunsen burner, drop on a few drops of methylene blue, wash under the tap, dry with filter-paper, place a drop of cedar oil upon the now stained preparation, and examine with a one-twelfth immersion lens. If the diplococcus be present it may easily be distinguished by its characteristic bean-shaped appearance and grouping. This test is usually sufficient when accompanied by the usual clinical symptoms. In case of doubt recourse must be had to the Gram method. In this the slide is smeared and fixed as just described, and a few drops of anilin-gentian-violet are dropped upon the smear and allowed to remain from one to two minutes. Remove the surplus solution with filter-paper, but do not wash with water. Next immerse in the Gram solution for a similar period. Decolorize with absolute alcohol until the specimen is clear to the naked eye. This should take about one and a half minutes. Now wash in water (the Gram test being finished) to remove the alcohol, and restain with a solution of Bismarck brown. If this test has been carefully carried out the gonococci will be found to have taken the Bismarck brown or secondary stain, while the pseudo-cocci retain the Gram color. Having satisfied himself as to existence of the gonococcus the physician next proceeds to find out if he has an anterior or posterior infection to deal with. This can easily be determined by the Thompson two-glass test.

A marked change has taken place in the treatment of this disease since the introduction of preparations which are not precipitated by albumen. These act purely as disinfectants, and have no irritating or astringent effect on the mucous membrane of the urethral canal.

In dealing locally with an anterior specific urethritis, the drugs available for its treatment may be divided into three groups: (1) simple disinfectants such as nargol, protargol, and largin; (2) antiseptic astringents—argentamin and nitrate of silver; (3) simple astringents—zinc sulphate, permanganate of potassium, and alum.

In the acute stage, in the opinion of the writer, the first group will be found to be the most effective, as at this time the gonococci are deep down in the epithelial layer and must be reached to be destroyed.

Nargol meets this requirement best of any drug which we have at present. It is a chemical compound of silver with a protein base. At the commencement of treatment a ¼-per-cent solution should be injected into the urethra every eight hours, and the injection to be effective should be retained for from five to ten minutes. It will be found that if this procedure be carefully carried out, within three or four days there will be a marked diminution of the discharge, and the scalding on urination will be markedly lessened. At this time the strength of the nargol solution may be increased to one per cent or even more, depending upon the susceptibility of the individual. Largin will also, on account of its combined bactericidal and astringent powers, be found of value, but its use is often attended with more or less pain, owing to its having a slightly alkaline reaction. If, however, it can be borne, its use is to be recommended, owing to its having a greater penetrating power, its action on the germs being therefore more energetic. This treatment will usually shorten the acute stage to about ten days, and it will be then possible to alternate the disinfectant with the astringent.

The various negative results published of the effect of the silver compounds are undoubtedly due to the changes in the solution. The following method for preparing the injections will, if followed, be productive of the best results: The powder must be dissolved in cold water. An open vessel containing water is stood in a cool place, the powder is dusted on to the surface and allowed spontaneously to be dissolved, and subsequently sufficient cold water is added to dilute the solution to the required strength. The solution should be freshly made, for stock solutions tend to change color, which is an indication of the splitting up of the organic silver compound. The addition of glycerin to the solution is not a good practice, as it can only act as an irritant.

At this time an examination with the microscope will reveal the fact that while we have not as yet entirely destroyed all the gonococci the number has been considerably lessened. Owing to the peculiar histological structure of the urethra, containing as it does so many crypts and lacunæ wherein the germs may be located, these remedies are by no means specifics, and at present it is impossible to shorten the duration of the disease much under six weeks. The irrigation method of treatment is one which in the hands of many has not proven very successful. This may or may not be due to faulty technique. Irrigations with hot solu-

tions, whether of permanganate of potassium, normal salt solution, or boric acid, are certainly beneficial if properly carried out. They require time, however, and very few patients are willing to appear at the physician's office twice or three times a day for them.

In conjunction with the local treatment already described, attention must, of course, be given to the patient's diet; a lowered one must be enjoined, together with a total abstinence from all liquors. As to internal treatment the drug of most value is oil of sandalwood administered in ten-minim doses every four hours.

In quite a large proportion of cases of gonorrhea, infection of the prostate is a consequence. When the condition is present our attention must be given to this gland, which must be carefully massaged at frequent intervals. The most important factor in the finishing of a case of gonorrhea is the cold steel sound; in fact, without this instrument, in cases of long standing, it will be impossible to reach a successful termination. The sounds most usually used are those numbered from 12 to 19 American. The sounds should be clean, smooth, and perfectly nickel-plated. Sounds should be allowed to remain in the urethra for five minutes before being withdrawn. They are first applied once a week, then once in two weeks, and finally once a month. The pressure on the tissues made by the steel sounds causes the absorption of the remains of the infiltrated elements of the mucosa, and also maintains unaltered the caliber of the urethra.

Of all the diseases which a physician is called upon to treat, none resist treatment so much as cases of gonorrhea. Ricord is credited with making the remark some years ago that "man knows when gonorrhea commences, but God alone knows when it ends." The only way that we can be reasonably certain that gonorrhea is ended is by a careful microscopical examination of the shreds found in the urine of a gonorrheal patient. If after several examinations of these shreds no gonococci are found, then may we pronounce the individual cured. This is a question of vast importance and demands the greatest of attention, involving as it does the welfare of many an innocent woman. Many women after marriage begin to suffer from troubles hitherto unknown to them. They recognize, as Julien says, the origin of all their trouble as the wedding trip. Noeggerath has claimed that latent gonorrhea in man will produce latent gonorrhea in the female, which in the course of time will manifest itself by perimetritis and oöphoritis. Finger before allowing a man suffering from gonorrhea to marry requires three conditions, viz., an absence of the gonococci, of pus corpuscles, and of periurethral complications.

Regarding the time that should elapse after the disappearance of the gonococci before a patient should be allowed to marry, it is best to wait until six months have elapsed to be certain that the mucous membrane of the urethra is again normal, or as nearly so as it is possible to make it.

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An association to further scientific research is now under process of formation. It will be known, says *American Medicine,* as the International Congress of Original Medical and Surgical Investigation. Applicants for membership must be graduated from a school of medicine recognized by the association, and if such applicant is under forty years of age must have performed satisfactory work in original medical and surgical research for ten years. Dr. Renness is reported as representing Germany; Dr. Hallion, France; Professor Beattle, Austria; Professor Starling or Professor Fister, England; and Dr. J. Byron Coakley, of Chicago, the United States.

The skull of Sir Thomas Browne, author of the Religio Medici, has been placed, says the *New York Medical Journal,* in a casket and presented by Dr. William Osler to the Norfolk and Norwich (England) Hospital. The casket is of oblong shape, about 13 inches in length by 11 inches in width, and 11 inches in height. The four sides and top consist of crystal glass, with silver gilt mountings, and set on a stand of ebony. It was manufactured by the Goldsmiths' and Silversmiths' Company of London, and is an exceedingly choice work of art. On the stand are placed four gilt plates, on one of which is engraved the name of the donor, etc., and on the other three quotations selected by Professor Osler from the Religio Medici: "This casket was presented to the Norfolk and Norwich Hospital by William Osler, M.D., F.R.S., Professor of Medicine, Johns Hopkins University, Baltimore, 1901."—"I believe that our estranged and divided ashes shall unite again; that our separated dust after so many pilgrimages and transformations into the parts of minerals, plants, animals, elements, shall at the voice of God return into their primitive shapes and join again to make up their primary and predestinate forms."—"At my death I mean to take a total adieu of the world, not caring for a monument, history, or epitaph, not so much as the bare memory of my name to be found anywhere but in the Universal Register of God"—"In these moral acceptions the way to be immortal is to die daily. Nor can I think I have the true theory of death when I contemplate a skull, or behold a skeleton, with those vulgar imaginations it casts upon us."

# THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich.

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## EDITORIAL ARTICLES.

### THE SURGICAL TREATMENT OF CRIME.

The advocates of radical methods of dealing with the propagative instincts of criminals have recently scored a triumph in the success which has attended a surgical operation which without apparent inconvenience imposes sterility on the male.

The universal sentiment of men sufficiently civilized to feel that the presence of crime was objectionable in the body politic has hitherto revolted at the idea of indiscriminate castration as a means of checking reproduction of the criminal population. This is regarded as an inhuman measure which could only have as debasing an effect upon its perpetrator as upon the victim. The measure was one which did more than accomplish its object. It degraded its victim and made him mentally and bodily worse than the lowest degenerate.

To prevent the creation of degenerates under the laws of heredity, it is now suggested by the extremists that resort be had to the modified operation of resecting the spermatic cord. Dr. Ochsner, of Chicago, speaking of the operation, which he has twice done for disease of the prostate, says: "Judging by the results obtained in two cases reported, it is evidently possible to obtain sterility without in any way interfering with the possibility of future enjoyment." In other words, this operation is one which does not mutilate the person, does not destroy the sexual power, but does prevent the power of propagation. Another writer has just announced his experience in forty-two cases of defectives, and is prepared to state positively that this operation "does not impair the sexual power of those operated upon, that they improve mentally and physically, that they increase in flesh, feel that they are stronger, and that while prior to the operation they made no advance in school, their advance is now fairly satisfactory."

The operation itself is a simple one: Cocainize the site of

operation over the external inguinal ring, make a one-inch incision, clear the cord and ligate at the nearest point to the seminal vesicle, and remove about one-fourth inch of the vas; close with a buried stitch.

By this simple method is the world to be ultimately reformed —ridded of the picturesque highwayman, the avaricious bank-wrecker, as well as of the idiot, the imbecile, and the epileptic. It would doubtless be just as well fitted for preventing the gouty, the tubercular, or diabetic inheritances; and when it comes to be practiced by advanced female practitioners, it will easily outrival in usefulness ovariotomy for the creation of neuters. It is possible that in Fifth Avenue circles, where maternity is reckoned an inconvenience which precludes from the full enjoyment of pink teas and ping-pong parties, no man will be eligible for the social distinction of matrimony unless he has previously submitted himself to this innocent and unharmful surgical operation.

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## EDITORIAL NOTES.

### Quack Advertising in the Lay Press.

One of the best expositions of the manner in which the public, especially the younger male portion of it, is demoralized by the pernicious influence of quack advertisements in the lay and religious press is the prize essay of W. B. Davis, of Pueblo, Col., published in a recent number of *American Medicine*. The writer after having gone carefully over the subject can find no remedy for this evil, owing to the fact that heretofore any attempt at securing the needed legislation to limit quackery has been met with opposition by the press of the country, having at its command large sums of money with which they can successfully oppose the making of any laws that might injure them financially. As this is a question to be considered from a moral standpoint, it behooves every practicing physician in this and every other country—for quackery runs rampant in all the so-called civilized countries—to do all in his power to disseminate as far as he may be able the truth in regard to these advertisements.

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### The Odors of Disease.

A writer in an Australian medical journal calls attention to the old subject of diagnosing diseases by their odors. The acidity

of rheumatism can be so recognized; also the nauseous breath of pyemia, putridity in scurvy, musk in peritonitis, sour beer in scrofula, ammonia in simple fever, new bread in intermittent fever, violets or pineapple in hysteria. Various disorders of the stomach can undoubtedly be discerned by smell, so can smallpox in the eruptive stage, and there are many other diseases in which a well-trained olfactory sense will contribute much to the elucidation of the diagnoses.

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### False Pearls: A Case of Saturnine Intoxication.

In Paris they have recently observed several cases of a professional disease among lapidaries engaged in making false pearls. The method of making these ornaments is a secret, but inasmuch as the symptoms resemble lead poisoning, it is concluded that some salt of lead enters largely into their manufacture.

# ITEMS AND NOTES.

VIRCHOW is progressing slowly toward recovery.

VICTORIA UNIVERSITY in England is, it is said, about to suffer dissolution.

A LARGE sanatorium is in process of construction in Silver City, New Mexico.

THE *Cleveland Medical Journal* has been incorporated with a capital stock of $6000.

THE women of Maryland have started a fund for the benefit of the Johns Hopkins University.

THE smallpox epidemic throughout the West is considered to be the most serious outbreak since 1885.

A SOLARIUM is being built at the Government Sanatorium for tuberculosis at Fort Bayard, New Mexico.

THE Intercolonial Medical Congress of Australasia was held at Hobart, Tasmania, on February 17 to 22.

THE French Benevolent Society of New York City is about to build a new hospital on Thirty-fourth Street.

A CONGRESS of hydrology and climatology was held at Milan March 22 under the presidency of Dr. D. Christoforis.

DR. W. W. BURNS, of Polo, Ill., who is now in his eighty-first year, has been in active practice for fifty-four years.

MORE than 50,000 francs have been donated for the erection of the monument to Ollier, the surgeon, of Lyons, France.

ANDREW CARNEGIE has given $50,000 for the erection of a hospital in Pittsburg to give first aid to injured workmen.

AN epidemic of typhoid fever prevails in Michigan City, Ind. Over two hundred cases of the disease have been reported.

THE Battle Creek Sanitarium which was recently burned, entailing a loss estimated at $400,000, will be rebuilt immediately.

THE new English journal entitled the *Journal of Obstetrics and Gynecology of the British Empire* has made its appearance.

AT the public exercises held by the University of Pennsylvania on Washington's birthday, Dr. S. Weir Mitchell read an original poem.

THE Kentucky State Board of Health has sent out a notice to the effect that non-resident physicians can be registered in that State.

A BACTERIOLOGICAL LABORATORY for the study of the plague is to be established at Silvi-Bouron, on the Bosphorus, near Beicos.

INFLUENZA is prevailing to a greater extent than for several years past in London, where it has caused a decided rise in the death rate.

STEPS have been taken by a number of wealthy Hebrews of Brooklyn, N. Y., toward the establishment in that city of a Hebrew Hospital.

THE authorities of Yale College have announced that hereafter the course in the Yale Medical School can be made in three years instead of four.

THE second meeting of the Congress of Russian Surgeons was held at Moscow in the early part of January under the presidency of Prof. W. Rasumowski, of Kasan. The congress was attended by about 200 members.

SURGEON JOSEPH J. KINYOUN, U. S. Marine Hospital Service, stationed at Detroit since his transfer from San Francisco a year ago, has resigned, and will reside in Philadelphia and devote himself to bacteriologic work.

ONE of the measures adopted in the campaign against charlatanry being waged in Germany is the publication in the medical journals of descriptions of the nature of the most widely advertised quack medicines.—*Exchange.*

A HOSPITAL car was attached to each of the five trains required to transport the 29th Infantry from Fort Sheridan to San Francisco, *en route* to the Philippines. This was rendered necessary by the prevalence of measles at the post.

RECOMMENDATION has been made by Surgeon-General Rixey of the navy that the medical corps of the navy be increased by forty medical officers, this increase to be made by the addition of fifteen surgeons and twenty-five assistant surgeons.

DR. JOSEPH LEIDY, of Philadelphia, has been honored by the French government with the insignia of Officier d'Instruction for services rendered during the exposition of 1900, where he represented the United States on the International Jury of Hygiene.

THE eighth annual meeting of the American Laryngological, Rhinological, and Otological Society will be held in the city of Washington June 2, 3, and 4.

SIR WILLIAM HINGSTON, of Montreal, recently celebrated the fiftieth anniversary of his graduation in medicine, which occurred at McGill University in 1851.

IT is stated in the London daily papers that Dr. Ross has succeeded in cultivating the germs of cancer and has produced a malignant neoplasm by inoculating a guinea-pig with the culture.

A DENTAL practice bill has been introduced in the New York State legislature providing that no degree in dentistry shall be conferred in that State unless the candidate has satisfactorily completed a three-year course in an institution registered by the regents, or has had five years' actual practice in operative and mechanical dentistry subsequent to the registration of his certificate as a student of the Board of Examiners.

SURGEON-GENERAL STERNBERG has recommended that Contract-Surgeon James E. Mead have a commission as captain and assistant surgeon of volunteers on account of gallant conduct and professional zeal in the Philippines. This action is taken on the recommendation of First Lieutenant Louis Van Schaick, Fourth Infantry, indorsed by General Chaffee and Lieut.-Col. B. F. Pope, chief surgeon of the Division of the Philippines.

THE Prussian Budget for 1902, says the *Journal of the American Medical Association,* appropriates 20,000 marks for further study of means of prevention and early diagnosis of typhoid fever. The sum of 10,000 marks is given to the Committee for Cancer Research, and 53,000 marks is to be applied to the erection and maintenance of a cancer ward and laboratory in connection with the Charité Hospital at Berlin.

THE Victoria Cross, "For valor," has been conferred upon Surgeon-Captain T. J. Crean, of the First Imperial Light Horse. The following is the official statement of the cause: During the action with De Wet at Tygerskloof, on December 18, 1901, this officer continued to attend to the wounded in the firing line, under a heavy fire at only 150 yards range, after he had himself been wounded, and only desisted when he was hit a second time, and, as it was at first thought, mortally wounded.—*Exchange.*

AN evening office for medical treatment at moderate prices for the poorer classes will be opened soon, says *American Medicine,* in the central part of Philadelphia, under the management of

Drs. Gertrude Walker, Kate Baldwin, and Alice Norton. This place has the support of the 1300 members of the Pennsylvania Association of Women Workers and many well known physicians, and has for its aim the establishment of a middle point between the physician's office and the free clinic to reach a self-respecting class who will not receive treatment at the hospital clinics, and who have not the means to employ a specialist.

A SOCIETY for the study of the historical aspects of medicine was formed in Paris on January 29, says a contemporary. Following is a list of the officers: President, Professor Raphael Blanchard, member of the Academy of Medicine; vice-presidents, Dr. Motet, member of the academy,; Dr. G. Ballet, professeur agrége in the Medical Faculty of Paris; Dr. Dureau, librarian to the academy, and Dr. Triaire, of Tours; secretary-general, Dr. Albert Prieur, editor of *La France Médicale;* secretaries, Dr. MacAuliffe and M. Victor Nicaise; archivist, Dr. Beluze; treasurer, M. A. Prevost, of the secretarial office of the Faculty.

THE War Department has recently directed that one of the seacoast defenses near Baltimore, Md., shall hereafter be known as Battery Lazear. According to the order this action was taken in honor of Dr. Jesse W. Lazear, late an acting assistant surgeon, United States Army, who, while on a visit to Las Animas Hospital, Havana, Cuba, September 13, 1900, and while collecting blood from yellow-fever patients for scientific study, was bitten by a Culex mosquito and deliberately allowed it to satisfy its hunger, and as a result contracted yellow fever, of which he died September 25, 1900, thus by his self-sacrifice positively determining that the mosquito carries yellow-fever infection.

IN the last dozen years influenza has become not only an important factor in the mortality of the city of Chicago, says the *Journal of the American Medical Association,* but as a mischievous complication has notably increased the death-rate from pneumonia, the deaths from which have increased fifty per cent since influenza appeared in 1889. Cancer is increasing with frightful rapidity. In the decade ended in 1870 there were only 7.3 cancer deaths in every 1000 deaths from all causes in Chicago. In the decade ended in 1900 there were 28.9 such deaths in every 1000, an increase in thirty years of more than 80 per cent. Last year there were 1003 deaths from this disease in a total of 24,406 deaths from all causes—a proportion of more than 41 in every 1000, instead of the 7.3 in the decade of 1870, of the 14.5 in that of 1880, of the 19.8 in that of 1890, and of the 28.9 in that of 1900.

# THE PROGRESS OF MEDICAL SCIENCE.

## SURGERY.

### Removal of Foreign Bodies from the Air-passages.

D. Willard (*American Journal of Surgery and Gynecology,* March, 1902) says that in attempting to remove foreign bodies from the air-passages coughing should be encouraged—forcible inspiration restrained.

Inversion in the prone position as a domestic practice is advisable.

Laryngoscopy is helpful if the body is lodged at the vocal cords. It may be extracted by forceps or by laryngotomy.

If time permits, the *x*-ray may be brought into serviceable use for the diagnosis.

Careful diagnostic investigation is important to determine the actual presence of an impacted body, and its location.

Tracheotomy under local anesthesia should be the rule if the object is lodged at the bifurcation or in the bronchi. Tracheoscopy, suction, and forceps manipulation must be cautiously employed. Prolonged instrumentation adds greatly to the danger of pneumonia.

If extraction is not secured through the tracheotomy wound the chest wall should not be invaded unless an artificial respiratory apparatus like the Fell-O'Dwyer is at hand, and oxygen available. With the assistance of these appliances, however, the bronchus may be reached anteriorly or posteriorly, since by their use rhythmical movements can be maintained.

Resultant abscess of the lung should be treated by incision and drainage.

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### The Pathology and the Etiology of Prostatic Hypertrophy: Suprapubic Drainage and Myomectomy of the Prostate as Methods of Treatment and Cure.

A. C. Bernays (*Interstate Medical Journal,* February, 1902) says that in old cases of hypertrophied prostate, palliative measures are sometimes preferable to radical measures.

Drainage of the bladder by the suprapubic route is preferable to perineal drainage in cases of cystitis, because the suprapubic method gives the sphincter apparatus more complete rest than the perineal buttonhole or fistula.

In cases of hypertrophy in which the patient's health has not

been injured by chronic cystitis or nephropyelitis, the dangers of myomectomy or perineal prostatectomy are minimal, and in these cases a radical and satisfactory functional result can be achieved by myomectomy.

Bottini's operation must be regarded as a palliative measure, intended to enable the patient to evacuate his bladder more completely than before. It will probably have a very limited usefulness and will be crowded out of practice as the technique of myomectomy or perineal prostatectomy is perfected.

Bottini's operation is a dangerous operation, and must not be undertaken unless most careful measurements have been made. It is often followed by extravasation of urine into the perineum, and perineal section must be done in order to save the patient's life as soon as swelling of the perineum is noticed.

Myomectomy done through a perineal incision is the operation which promises the best results, and is the operation of choice. It is applicable to the greatest number of cases in which permanent cure may be expected, the kidney being physiologically sufficient and unimpaired. The greatest dangers associated with prostatectomy are produced by injuring or removing parts of the capsule of the organ. Myomectomy must be done without this dangerous manipulation. As long as the capsule is left intact there is but little hemorrhage, and the danger of infiltration of urine and sepsis is reduced to a minimum.

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### Some Facts Concerning Head Injuries.

D. S. Fairchild (*American Journal of Gynecology and Surgery*, March, 1902) says that violence of no great intensity when applied to a limited area of the skull may cause a fracture or only momentary displacement with a rupture of the meningeal artery, or a rupture of an artery without fracture.

A localizing injury which may lead to a fracture without displacement and hemorrhage does not as a rule cause a serious permanent brain lesion if early and judicious surgical treatment is employed.

A fracture may occur without apparent displacement, yet a real localized pressure on the brain exists which may cause irritative changes involving a more or less extended sclerosis and remote secondary results, as epilepsy or mental impairment.

A blow may be received on the head which may produce a more or less extensive laceration of the scalp which in itself is not serious. But the fall from a height or from a rapidly moving

train may produce more or less extensive contusion or laceration.

A fall from a height or moving train may, without a fracture, cause directly or indirectly a contusion or laceration of brain tissue, or so disturb the cerebrospinal fluid as to primarily bring about such changes and cause immediate results, or secondary serious remote effects by inducing degeneration and final interstitial changes resulting in insanity.

An injury may be of such a character as to produce a localized wound of the brain, that may heal with the production of scar tissue, which may extend, may or may not undergo cystoid or other degeneration, with serious remote effects.

In the absence of localizing or other definite symptoms to indicate the nature of the lesion, the character of the accident and the manner in which the force is applied is of great value in reaching a conclusion as to the probable nature of injury to the brain.

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## The Indications for Myomectomy in Young Married Women.

E. Reynolds (*Journal of the American Medical Association,* March 8, 1902) gives the following diagnostic points:

1. The appearance in the early part of the puerperium of severe, intermittent, paroxysmal pains bearing close resemblance to labor pains, and referred to a definite spot at which there is acute tenderness.

2. The appearance, after a few hours of these pains, of the symptoms of a pelvic peritonitis, and often in an alarming degree.

3. The detection on physical examination of an irregularity in the uterine wall at the tender spot, not necessarily of large size, and possibly to be made out only under anesthesia.

The principles of treatment should be:

The control of the pain by morphine, and if this is not promptly successful, by brief but profound anesthesia, which should be succeeded by relief, and should be repeated whenever the pain reappears.

If the preceding measures fail, and the patient is still in good operable condition, an immediate myomectomy is probably the best treatment.

If the condition has remained undiagnosed until the peritoneal symptoms are extreme and an abdominal operation will probably involve a high mortality risk, and if in this case the tumor is in any way accessible from below, its free puncture and the drainage

of the contained serum may probably be relied upon to terminate the attack, and permit a safe removal of the tumor at a later date, should that be necessary.

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## MEDICINE.

### Gout.

W. B. Stanton (*Philadelphia Medical Journal,* March 1, 1902) says that little has been added to the knowledge of this disease. Ebstein thinks that while lead, climate, mode of life, etc., may act as predisposing causes, there must also be present the hereditary tendency. In regard to the influence of lead, Lorimer found in 696 cases of typical gout that eleven per cent had lead poisoning, while of 772 cases admitted for arthritic disease, whose occupation exposed them to lead, one-seventh showed evidence of plumbism. He finds that those who are subject to gout are especially susceptible to plumbism, and in those who are predisposed to gout an attack may be induced by the administration of the salts of lead. The question of the pathogenesis is a subject of much study on the part of the chemists, but as yet not a satisfactory solution of the problem has been offered. Rosin, after carefully reviewing the literature on gout, concludes that there is an increase in the amount of uric acid in the juices of the body, but he is unable to state whether this is due to retention, overproduction, or to a disturbance in "urolysis." Tollens says that the quadriurate of Roberts cannot exist in the blood, since it is an acid salt, and in the presence of the excess of alkalies there found must change into the neutral biurate. He speaks of the possibility of the sodium urate not existing in the blood as such, but as acid and base ("dissociation"), or as acid radicle and metal ("ionisirung"). Yeo calls attention to the liver as the organ chiefly at fault, and suggests the use of the term "hepatic inadequacy" instead of "irregular gout." In this connection the work of Kowalewski and Salaskin is of interest. They found that by passing blood, to which had been added lactate of ammonia and argonin, through an isolated goose liver, the uric acid was increased 308 per cent of the original amount. From this they conclude that (in geese) the liver takes an active part in the formation of uric acid and is the place where the synthesis of this acid occurs. Stengel cautions the general practitioner against the mistake of considering the deposition of uric acid crystals in the urine as indicative of a gouty condition. There is nothing

new to add to the symptomatology of gout, the various "irregular" forms presenting too vague a clinical picture to be satisfactory.

The treatment remains an open question. All seem to agree as to the value of diet, though as to the nature of this there is great difference of opinion. Stengel thinks the chief good lies in the restriction, though a change in the same is advantageous. Yeo claims to have seen good results from a diet of pounded lean meat and draughts of hot water. As to drugs, the most recent is quinic acid, which is combined with lithium citrate as "urosin;" with urotropin as "chinotropin;" with piperazin as "sidonal." Salfeld reports five cases of acute gout treated by "sidonal," which he gave in gramme doses five times daily; de la Camp studied the metabolism in one case of leukemia, four of gout, and one of chlorosis before, during, and after the administration of "chinotropin." He found an increase in the hippuric acid in all cases. The influence on the uric acid excretion was more irregular. In conditions in which the organism was continually excreting large quantities of uric acid, as in leukemia, or in which a considerable amount of uric-acid-forming food was being taken, the "chinotropin" produced a diminution in the excretion of the uric acid. From his clinical results, however, he recommends the drug and thinks the combination with urotropin is a specially good one. The urotropin is broken up within the body into formaldehyde, which is said to form a combination with the uric acid, which is easily soluble. Quinic acid in itself is harmless, and the dose depends on that of the drug with which it is combined. De la Camp's maximum dose was 7 grammes daily, amounting to 1.5 grammes of urotropin. Klemperer finds that free carbonic acid gas in the urine renders this solution of free uric acid more difficult, but makes that of the urates easier. He advises that the patient be kept on a mixed diet, while the urine is kept neutral or nearly so by the administration of alkaline mineral waters containing CO.

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### A New Test for Albumin.

F. C. Fuhs (*Medical Record*, March 8, 1902) has the following to say in regard to a new test for albumin:

This new and simple test is based upon the following facts: (1) Albumin is coagulated by carbolic acid; (2) equal volumes of non-albuminous urine and a mixture composed of equal parts of carbolic acid and gycerin form an emulsion, which clears up

entirely upon agitation, leaving a perfectly transparent and highly refractive liquid; (3) equal volumes of albuminous urine and the above mentioned carbol-glycerin solution, when mixed together, produce a white turbidity, which remains, in spite of agitation, and does not precipitate on standing, nor redissolve.

The test is very sensitive, distinctly showing the presence of 0.1 per cent of albumin in the urine, the degree of turbidity being proportionate to the percentage of albumin contained in the urine.

Numerous and repeated experiments were made to substantiate the observation that this turbidity occurs only when albumin is present, and furthermore, that it is due to the presence of albumin and is a suspension of coagulated albumin.

For this purpose many specimens of both nephritic urine and urine of patients suffering with cystitis have been tested, as well as numerous specimens of urine proved free from albumin by the recognized and generally used reagents for the detection of albumin.

In no instance did a urine shown to be free from albumin by the recognized tests present the slightest turbidity by this new reagent, nor did a urine proven to be albuminous by the same tests fail to show the characteristic white turbidity after treatment with the carbol-glycerin solution.

The method of applying the test is very simple, and requires as little or less time than the other reliable tests for albumin, and as the carbol-glycerin solution is a non-irritating mixture, it is much to be preferred to the disagreeable nitric acid.

The solution consists of carbolic acid and glycerin, equal parts. Glycerin is added to prevent the formation of a permanent emulsion between the carbolic acid and the watery element of the urine, and is added in excess, so that no possible error can occur from this cause.

*Test.*—Two cubic centimeters of carbol-glycerin solution is poured into a small test tube, and two cubic centimeters of the filtered urine is added. Mix thoroughly with a glass rod, or agitate. If a clear, transparent liquid results, there is no albumin present; but if the slightest turbidity is noticeable, the urine is albuminous.

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## The Diagnosis of Pancreatic Disease.

Wm. S. Thayer (*American Medicine*, March 1, 1902) says that while we possess as yet no diagnostic symptom of pancreatic disease, unless, indeed, further observation should confirm the possibility of the demonstration in acute pancreatitis of the fat-

splitting ferment in the urine, yet clinical and pathological experience have taught us certain combinations of symptoms which justify a diagnosis in various forms of pancreatic disease.

Acute pancreatitis should be recognized in many instances. The importance of an early recognition of those cases which go on to extensive necrosis and to suppurative parapancreatitis is easily appreciable.

Chronic interstitial pancreatitis is to be suspected under the following conditions:

1. Instances in which glycosuria develops in an individual with chronic cholelithiasis.
2. In cases of glycosuria in association with cirrhosis of the liver.
3. In glycosuria in the course of hemochromatosis.
4. In glycosuria following attacks suggestive of pancreatic colic.

Pancreatic lithiasis is recognizable only when calculi are found in the stools.

Cysts of the pancreas are usually to be recognized on account of their location.

Primary cancer of the pancreas is often latent. The presence of obstructive jaundice with distended gall-bladder and rapidly developing cachexia, in association with little or no hepatic enlargement, is suggestive of this affection.

Fatty stools, in the absence of diarrhea or jaundice, together with indications of interference with the digestion of albuminoids, are valuable confirmatory evidence of deficiency or absence of the pancreatic secretion.

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## THERAPEUTICS.

### An Effective Treatment for Septic Endocarditis.

Prof. K. F. Wenckebach (*Therapie der Gegennart,* February, 1902) says that increased attention has been paid to septic endocarditis during the last few years, probably because bacteriological investigation has tended to show the relationship of the various cases to one another. The fact that pathogenic microörganisms can almost always be cultivated post mortem from the endocardial excrescences and ulcerations, and often even from the patient's blood during life, is of the utmost importance, and has been confirmed from the most varied sources. The labors of Litten, Henschen, Bartel, Jackson, Lenhartz and many others demonstrate that every endocarditis is probably of bacterial origin. When

general infection of the blood occurs during the course of an endocarditis, and the more or less violent symptoms of a septicemia develop, we speak of the affection as a septic or malignant endocarditis. When inflammatory foci other than those in the pericardium from which the blood could be infected are absent, we must regard the disease as an entirely independent affection; and such cases are being recognized and described with ever-increasing frequency. The endocarditis of acute articular rheumatism rarely goes on to general sepsis; and the endocardial inflammation itself usually ends with the termination of the general affection, though it only too frequently leaves incurable defects of the valvular structures behind. But an endocarditis occasioned by other infections rarely runs so comparatively favorable a course; the gonococcus has a bad reputation in this respect; and streptococci, staphylococci, pneumococci, bacteria coli, and other microörganisms are recognized causes of the disease.

In general prognosis is set down by all authorities as extremely unfavorable, though isolated cases do go on to cure. The more attention is paid to the disease the more frequently will the milder cases be recognized, and the more favorable will be the general average prognosis of the disease. Such cases are those in which the general septic symptoms have but little acuity, and which, as Lenhartz observes, have a more chronic course; but, of course, it will hardly be possible to decide whether the malady is really healed, or whether it is merely latent, and is liable to reappear at a later period. The course of the disease depends mostly upon the nature and the virulence of the pathogenic organisms that occasion it, and only in the second place upon the extent and localization of the inflammatory processes in the endocardial membrane.

In every case, however, and even in its milder forms, the malady is a very serious one; and Lenhartz was entirely right a few months ago when, at the conclusion of his excellent article in the *Münchener Medicinische Wochenschrift*, he spoke of the absolute "impotence of medical science." Until now there was no such thing as an effective therapy.

However, the impossible of to-day may be the possibility or even a fact to-morrow; and the author has an idea that even now we need not feel quite so powerless as formerly.

The requisite for the cure of an infectious ulcerative inflammation of the endocardium, with subsequent infection of the blood and the entire organism, is an antiseptic that does not injure the blood itself, and which, brought directly into the circulation, is powerful enough to destroy the bacteria living in the vital fluid, and to disinfect the disease focus in the endocardium. The argentum colloidale which Credé has so heartily recommended for

septic processes, and which has been placed upon the market under the name of collargolum, seems to be such a remedy. It can not only be employed both internally and externally, but in one to two per cent solution it can be injected directly into the blood. The exceptionally good results which Professor Dieckerhoff obtained in veterinary practice induced the writer, even before Credé published the paper read before the Hufeland Society, to employ the remedy by intravenous injection in various cases of sickness. A trial seemed especially indicated in septic endocarditis, where in pure cases the sepsis affects the blood channels only, and other foci, which might possibly be reached only with difficulty, are absent. And the results of the trials were most excellent. Once we have overcome our natural reluctance to inject so opaque a mass into the veins of a human being, we become absolutely convinced of the entire innocuousness of the remedy, as Dieckerhoff and Credé have both claimed.

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### The Best Method for Administering Quinine as a Preventive of Malarial Fever.

E. H. Read (*Journal of Tropical Medicine,* Jan. 15, 1902) concludes from his experience that the best way of giving quinine as a prophylactic is the following: (1) For male adults in good health, tablets in 15-grain doses every fifth day; for those in poor health, the solution used in the same way, or 15-grain powder in a tablespoonful of porridge or milk. (2) For female adults, 8 grains should be given instead of 15; pregnant women may take 2½ grains daily, in either of the above ways, from the beginning of pregnancy. (3) Children of either sex under one year, ½ grain of the powder every third day in a spoonful of milk, followed by a spoonful of jam or honey; those from one to five years, 1 grain every third day; from five to ten years, 2 grains every third day; from ten to fifteen years, 3 grains; above fifteen years, the ordinary adult dose, taken in the same way.

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### The Treatment of Malignant Growths by the X-ray.

W. J. Morton (*Medical Record,* March 8, 1902) says that in regard to what is accomplished by the *x*-ray there is relief from excruciating pain and constant suffering often immediately. There is a reduction in the size of the new growth and the establishment of the process of repair. If odor be present it is removed, and discharges cease. There is a softening and disappearance of lymphatic nodes, disappearance even of lymphatic en-

largements not directly submitted to treatment and often quite distinct; removal of the cachectic color and appearance of the skin; improvement in the general health. The writer says that up to date there has been a certain number of cures of the malignant growths.

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### The Toxic Effect of Alcohol on the Ganglion Cells of the Retina.

H. Friedenwald (*Johns Hopkins Hospital Bulletin,* February, 1902) says that in 1899 Holden reported that he had given a dog methyl alcohol, had produced amblyopia, and on examining the retina by Nissl's method had found sufficient evidence of degeneration in the ganglion cells to lead him to the conclusion that it is this degeneration that produces the amblyopia. Since then Birch Hirschfeld has investigated the effect of methyl alcohol (as well as that of a number of other poisons). He experimented on rabbits and on chickens, and gave sufficiently large doses to produce intoxication. The animals rapidly lost weight and soon died. The retina showed marked signs of degeneration in the ganglion cells, and in one case changes were found in an optic nerve very suggestive of the lesion observed in man in chronic alcohol and tobacco amblyopia. Objection has been raised against accepting these experimental results on animals as necessarily identical with the effect of chronic alcohol poisoning on man, and the differences in the clinical features of acute methyl alcohol and of chronic ethyl alcohol blindness have been pointed out. In order to obviate these objections the writer used various forms of alcohol in smaller doses over an extended period (almost four months). Pure and commercial methyl alcohol, absolute ethyl alcohol, and essence of Jamaica ginger made of 95-per-cent ethyl alcohol were employed, and the animal selected was the rabbit. The period of experimentation was sufficiently long, as was shown by the high degree of cirrhosis of the liver found in the rabbit fed with absolute ethyl alcohol. The animals were all in apparently good health when killed.

The effects of all four substances were alike. The retinal ganglion cellls showed marked degeneration, and the inner and outer nuclear layers were less affected. It was evident that methyl and ethyl alcohol act similarly on the retina in chronic poisoning, and that the degenerative changes produced by chronic alcohol poisoning are similar to those found by Holden and by Birch Hirschfeld in acute methyl alcohol poisoning.

These experiments are the first in which ethyl alcohol has been used, as well as the first in which degenerative changes have been demonstrated in chronic alcohol poisoning.

# THE MEDICAL AGE

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## ORIGINAL CONTRIBUTIONS.

### THE DIAGNOSIS OF PERICARDITIS.*

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The definitive diagnosis of pericarditis depends on the physical findings, which are therefore first discussed.

1. *Inspection.*—Precordial prominence, *voussure,* first noted by Louis, may occur when the chest is plastic, as in women and children, and when the intercostal muscles are paretic. The left chest often moves less than does the right. Epigastric, tumor-like bulging of the luxated liver was noted by Auenbrugger and Corvoisart. The apex beat is somewhat lower when exudation depresses the diaphragm, more horizontal, more to the left, and the dulness of an effusion transcends the apex to the left. The greater the effusion, the weaker the apex becomes, and disappearance of the previously distinct apex is all-important. Bending forward, the apex usually reappears.

The interspaces may bulge; collateral edema of the chest wall (Rendue) is most rare. Undulation, described by Sénac, is not due to the exudate, but to the heart itself. Swett described it in the epigastrium. Graves and Stokes described tumor-like extension of the compressed lung above the clavicle. According to Ewart, the upper edge of the first rib can be felt as far as its sternal attachment, being separated from the clavicle ("first rib sign"). The thoracic wall veins are large. During convalescence the apex may retract during the systole. The decubitus is usually dorsal, rarely on the left side; the head and shoulders are usually

*Read before the Chicago Medical Society, January, 1902.

elevated, and are rarely changed. It was the knee-hand position in Zehetmayer's case. Guttmann holds that the apex never wholly disappears.

2. *Palpation.*—Palpation confirms the location of the apex. The friction thrill is often felt (v. i.). In Fuller's cases, of palpable rub, there was always some external pericarditis favoring conduction of the true pericardial friction. Disappearance of an apex beat previously observed with a strong radial pulse is very important, while the mere absence of the apex is observed in many conditions. The friction may exceptionally originate in tubercle, cancer, calcification, maculæ tendinæ, etc.

Epigastric tenderness to either side of the ensiform or between the attachments of the sternocleidomastoid muscle is due to participation of the phrenic nerve (Guéneau de Mussy, and Peter). Fluctuation is practically never felt.

3. *Percussion.*—Usually 100 grammes of fluid are required for distinct physical signs, though Fraentzel has detected 50 to 60 in favorable cases. According to Ferber, there are two complementary recesses in the pericardium, the first over the basal vessels, where the fluid may accumulate, as revealed by a triangular dulness whose apex is directed downward (Skoda, von Dusch, Oppolzer, Rosenbach), which may compress the large veins or arteries, and the second in the fifth right intercostal space (Rotch-Ebstein), the fluid exudate here replacing the relative liver dulness, and recognized best by palpatory percussion. Extensive or the enormous exudates of (chronic) pericarditis produce an outline usually designated as triangular with the blunted apex upward, or as pyriform with the base directed downward. The dulness may even reach the interclavicular notch above the right nipple, the left axilla impinging on Traube's semilunar space beyond the left lobe of the liver, and markedly depressing the diaphragm and liver. Very massive exudates may be mistaken for pericarditis plus pleurisy with effusion.

While the outline is roughly triangular, the right border is more vertical in contrast with the oblique left border, which is beyond the apex beat if the latter remains visible (Skoda). The dulness varies with fluctuations in the effusion and resorption.

Dulness may be one-third to one-half more in the erect than in the dorsal posture (Gerhardt), but this is not invariable, since the lung borders must be normal and the exudate freely movable. Sahli has found increase in dulness in the erect posture in enlarged hearts and in valvular disease, which he explains by depression of the diaphragm or by posture emptying the auricles of

blood. He places more stress on the lateral than on the upper border. Sitting the patient up is usually unnecessary and often dangerous. Change of the dulness, especially when the patient lies on the right side (Rosenbach), is important, since this is uncommon physiologically, whereas change of dulness in the left decubitus is of minor value.

Dulness may persist from cardiac dilatation or from pulmonary retraction. The effusion may be enormous (ten liters, Kyber; one gallon, Clark; eight pounds, Corvoisart), and lead to a diagnosis of pleurisy alone, or pleurisy complicating pericarditis. Shattuck renounces all faith in the characteristic dulness.

4. *Auscultation.*—Auscultation reveals the chief and most reliable diagnostic sign, pericardial friction, due to attrition of the inflamed serous surfaces of the pericardium. Usually it is a "to-and-fro" rubbing, located over the base, and is deficient in precision of rhythm; it is usually increased by pressure and deep inspiration, is very superficial—that is, close to the ear; it is not propagated widely, and is often short-lived; it is variable as to the heart's phases and acoustic quality, and is not dependent on the intensity of the inflammation, but rather upon the accidental quality of the effused lymph and its location. Disappearance of the rub is explained by (1) regression; (2) exudation; (3) adhesions; (4) weak heart. The heart tones are usually more or less weakened and distant.

Laennec described the friction without fully appreciating it; Collin in 1824, and Latham in 1826, described it, but Stokes most fully elaborated it in 1831. In quality, it may be harsh, soft, whistling, creaking, crunching, musical, or even metallic (resonance from the stomach or intestines). In contradistinction to pleurisy, it may be present even with great exudation (Stokes), especially at the base, since here the heart may displace the fluid and touch the parietal pericardium. In location, while most often heard over the base, it may be present over the sternum or the tricuspid region, where it is especially significant. It may also be heard over the apex. Deficient in precision, it is not exactly synchronous with either cardiac phase, anticipating or falling behind the systole or diastole, which character is more clear when the heart rate is slow. It is single, double, mostly late in the systole (Sahli and Geigel), mesosystolic or mesodiastolic; it may be triple—*i.e.*, presystolic, systolic, and diastolic —or even quadruple. It is sometimes absent in fibrinous (Mayne, MacDowell, and Leube) or purulent inflammation. Superficiality of the friction sound is absent when partial adhesions exist anteriorly and the fluid accumulates behind.

Moderate pressure usually increases the friction, especially in plastic chests, yet pressure may also accentuate valvular murmurs. Much pressure may inhibit the cardiac action (Friedreich). Change of posture (Corrigan, Stokes) often makes the murmur clearer—*e.g.*, leaning forward.

While the propagation is not wide (*il naît et meurt sur place* Jaccoud), yet it has been heard at a distance of nine feet. In children it may be heard over the whole chest, and we have seen the same in adults. Hydrothorax (Graves) has been thought to favor its propagation, and cardiac hypertrophy by bringing the heart closer to the chest wall propagates the friction more widely (Stokes). Usually, the murmur ceases abruptly when the stethoscope has been removed a short distance. It does not follow the lines of propagation heard in valvular heart disease.

Sears describes a case in which the friction was clearest at the angle of the left scapula.

Respiration usually increases the murmur (Traube), due to the closer apposition of the pericardial leaves by the movable wedge of expanding lung. Sometimes it is more marked during expiration (Lewinski, Paul) in adhesions between the heart and lung (Riegel), and also without lung fixation. The murmur may last but two to six hours.

It is frequently said that as exudation increases the friction disappears, to reappear during absorption. "The friction increases upwards during exudation and downwards during absorption" (Sibson). Nevertheless, friction often persists in large exudations, if, indeed, its persistence is not the rule (Walshe). Balfour claims that friction once heard is never effaced even by the greatest effusion.

*Secondary Physical Signs.*—Evidences of cardiac incompetence are due to mechanical pressure hindering the diastole, especially of the auricles, inflammatory degenerative myocardial alteration or coincident cardiac disease, etc. They are hepatic and renal stasis, ascites, edema, cyanosis, dyspnea, cerebral anemia (syncope), etc. Traube held that the heart's action was stronger because the fluid was less resistant than the pericardial walls.

The pulse at first suffers irritative acceleration, but lasting frequency speaks for myocardial change. It may exceptionally be normal or even slowed (26). There is no characteristic pulse. Dicrotism is frequent. The pulsus paradoxicus is seen (Traube). A very strong or water-hammer pulse may suggest underlying valvular disease. Irregularity has been recorded (Louis, Gendrin). The pulsus differens occurs (Traube).

*Lung Compression.*—Bamberger observed a small area of compression, the size of a dollar, at the angle of the left scapula, where bronchial breathing, dulness, and increased fremitus are noticed, which clears up in the knee-chest posture, etc. (Pens). Puncture excludes fluid in cases of doubt. Shattuck denies Bamberger's sign, which Allbutt has also seen in hemopericardium. There is tympany (or dulness) under the left clavicle, and to the left of the heart, in fair-sized effusions. Ewart describes tubular breathing near the right mamma.

Vomiting, singultus, dysphagia (Morgagni, Gendrin, Stokes), even of the hydrophobic type, recurrent paralysis (Landgraf, Riegel, Baumler), and slow pulse are pressure symptoms.

Walshe observed tracheal compression. The second pulmonic may be accentuated, and Warthin holds it an early sign. The second tone may be split (Skoda).

Metallic heart tones may be due to an adjacent cavity, pneumothorax, or the stomach and intestine. A systolic non-valvular murmur over the aorta has been explained by pressure on the vessels (Walshe, Friedreich), or inflammatory relaxation of the vessels (Zehetmayer), interfering with their normal vibration. Organic or accidental murmurs may occur. Gerhardt observed splenic pulsation.

*Symptoms.*—All symptoms are frequently absent, and no symptom is diagnostic. Osler's statement that "probably no serious disease is so often overlooked" finds confirmation in the earliest observations of Latham, Graves, Stokes, Shattuck, Letulle. Leudet found total latency in fifty-five per cent of cases.

Fever may exist, but follows no set type (Wunderlich). It is often absent, especially in secondary pericarditis, and may run below normal, even in purulent effusions. High fever is infrequent.

Dyspnea, thoracic oppression or constriction, cardiac asthma, occur. Oppolzer observed cyanosis without dyspnea when the pulmonary circuit remained intact.

Dyspnea is due to vagus irritation, venous, cardiac, pulmonary, and arterial compression.

Pain is variable and often is missed in secondary pericarditis. Severe pain was considered indicative of pleurisy by Bouillaud and Bamberger. Epigastric pain may precede pain elsewhere (Guéneau de Mussy). Anginal pain (Andral), radiating to the shoulder, arm, and neck, is rare.

Cerebral symptoms in rheumatism, etc., should suggest pericarditis—*e.g.*, delirium, mania, choreiform movements, convulsions, psychoses (Burrows and Flint)—but may be due to com-

plicating uremia, endocarditis, etc. Gastritis may be suggested from the symptoms, while pericarditis is found on examination.

*The etiological diagnosis* is important, since pericarditis is almost invariably secondary.

1. Infective diseases, of which rheumatism is foremost (Pitcairn, 1788), being most frequent (Bamberger) when many joints are involved, and when the process extends rapidly from joint to joint. Probably many "primary" cases are rheumatic. It occurs with recurrent rheumatism and with endocarditis. Usually it develops rather early, but may precede arthritis (Stokes, Graves, Trousseau). Commonly serofibrinous, it is most exceptionally purulent. Other infections, as pneumonia (especially in the streptococcus type, Banti), septicopyemia, scarlatina, tuberculosis (multiple serous inflammation, pleuritis, peritonitis), etc.

2. By contiguity from adjacent organs, pleurisy, pneumonia, aneurism, disease of the ribs, sternum, spine, esophagus, stomach, spleen, liver, peritoneum, myocardium, endocardium, etc., and from cervical cellulitis (diphtheria, etc.), or mediastinitis.

3. In cachexiæ or dyscrasiæ, carcinoma, in three to ten per cent of nephritis (especially contracted forms), alcoholism, blood diseases, scurvy, etc., often as a terminal infection, where it may be overlooked.

*Differentiation* rests upon (1) the friction, or (2) the dulness, or both. Special subdivision into types, as acute or chronic, fibrinous, serofibrinous, seropurulent, purulent, ichorous, hemorrhagic, etc., is inadvisable as a general proposition. Puncture alone reveals the character of the exudate. Usually fibrin formation and serous exudation coexist (Latham).

1. The pericardial rub is practically pathognomonic of pericarditis (von Dusch). It has been observed in cholera from dryness of the tissues (Leichtenstern, Peischl), in soldier spots (Gerhardt, Pazzolo), hemorrhage (Wagner), hypertrophied heart (Gendrin, Seitz, Lépine), inflammation of the diaphragm (Walshe) or peritoneum (Enminghaus).

From endocardial murmurs, the acoustic quality, superficial character, inconstancy, lack of precision, variability with posture, slight propagation, palpatory difference in the fremitus, basal location and increase by pressure or inspiration of the pericardial friction, are most decisive. Sometimes pericardial friction covers an endocarditic bruit. The distinction is sometimes difficult between an aortic to-and-fro murmur and pericardial friction. Valsalva's experiment—*i.e.*, a long inspiration with closed glottis followed by expiration with tense abdominal muscles—intensifies

pericardial friction, and decreases endocardial murmurs. Bearing in mind the great frequency with which pericarditis is a complication (or coördinate phenomenon) of endocarditis, this special point demands reserve in the prognosis, since valvular disease often remains after the pericarditis subsides.

From pleuropericardial friction (pseudo- or extra-pericardial), originating in an inflamed pleura, where friction depends not only on respiration, but also on the heart's action. The usual differentiation lies (1) in the closer connection of the pericardial rub with the cardiac activity, persisting during expiration, and (2) the location of the pleuropericardial friction in the sinus mediastino-costalis, along the lingual lobe, in its intimate relation to respiratory movements, and in its usual cessation at either extreme phase of respiration, inspiration, and expiration (Stokes, Addison).

This method of differentiation is not infallible. Inspiration also increases true pericardial friction, which is, however, increased by bending forward. Valsalva's test (v. s.) is also useful. Pericardial friction toward the base or sternum is less often confused with pleural friction near the heart. Rosenbach finds differentiation most difficult when the basal vessels pound against a tuberculous cavity or a pneumonia. As a sequence of pleuritis pericardiaca, Riegel observed an expiratory lessening of the apex beat due to pulling of adhesions.

From the precordial emphysema murmur: Differentiation is possible in the crackling sounds of interstitial emphysema or air in the anterior mediastinum. The sounds resemble râles, but are closely associated with the heart's action, and are often metallic. The condition of the heart tones, etc., is decisive.

From pericardial splashing: See pneumopericardium.

2. The dulness of pericardial exudation. The typical pyriform or triangular dulness is modified by pleural or pericardial adhesions, pulmonary vesicular emphysema, etc., and the relative cardiac dulness may be markedly increased with little change in the absolute dulness. Our chief attention, therefore, is directed to the relative dulness. Hydropericardium and effusive pericarditis may be confused, since stasis may intervene in pericarditis, the friction may be absent or disappear, and fever may be lacking (chronic pericarditis). The etiological diagnosis of hydropericardium, local pericardial changes, or a general cause for hydrops, with previous anasarca or hydrothorax, which almost always develops first, on the one hand, or on the other hand the etiological factors of pericarditis, may easily determine the difference. Hydropericardium is less apt to produce high dulness. Digitalis

and purges favor resorption of transudation more readily than of exudation, in which latter event friction sounds would probably reappear. Paracentesis is not imperative for differentiation, but would reveal the usual differences in opacity, specific gravity, and albumin percentage between exudates and transudates. The triangular dulness may be very marked in hydrothorax, since there are no adhesions; friction is absent, and the fluid almost always contains some sugar. Potassium passes readily into transudates.

Hemopericardium, from trauma, and coronary, ventricular or aneurismal rupture, etc., is commonly sudden, is attended by syncope, and blood is removed by puncture.

From cardiac dilatation. The differentiation may be most difficult, especially with dilatation plus hydrops pericardii, when drastics, digitalis, friction, the history and evolution only may decide. The very distinctive relation between the apex and the outer dulness to the left is rarely fallible (v. s.). If the pulse is strong and the apex weak, pericarditis is present (with, of course, the typical dulness, etc.), yet compression or weakness of the heart in pericarditis necessitates a weak radial pulse. Schott's resisted movements, like digitalis, may decrease dilatation. In both affections the heart's dulness is increased by leaning forward, which may, however, bring out the apex well within the dulness of the exudate. When the patient lies on his right side, the apex in pericardial effusion becomes visible (Rosenbach), which does not obtain in enlarged heart.

From retraction of the left lung away from the heart. The diaphragm is high, the apex and outer dulness coincide, the spleen is high, the pulmonary artery is exposed, and the proper signs of pulmonary contraction are elicited (Leube).

From mediastinal tumor. The dulness is irregular; there is no change of dulness on postural change. The signs of increased conduction, etc., are noted, with the absence of the cardinal signs of pericarditis.

From aneurism, marginal infiltration of the lung; callous pleura; encapsulated pleurisy; superabundant fat (Walshe); anterior mediastinitis (usually with friction, but with more vertically elongated dulness).

*Diagnosis of the Character of the Exudate.*—The fluid is serofibrinous in rheumatism; ichorous in perforation from hollow viscera; hemorrhagic in scurvy, carcinoma, tuberculosis, hemorrhagic exanthemata, and alcoholism; purulent in sepsis, empyema, etc.; yet paracentesis is the only certain test, since

exceptions are frequent. Tuberculous pericarditis, even in the presence of other tuberculous foci, can be proven positively only by detection of the bacilli.

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## PROPHYLAXIS AND TREATMENT OF BUBONIC PLAGUE.

BY S. J. S. ROGERS, M.D., MARYSVILLE, CALIFORNIA.

The prophylaxis and treatment of bubonic plague have been worked out in India more thoroughly than elsewhere. Our accurate information concerning them comes mainly from that country directly or indirectly, and the writer in beginning this short paper must acknowledge his indebtedness to the interesting article on the disease in India by Drs. Barker and Flint in the *New York Medical Journal* of February 3, 1900.

From the few references to the disease in the London *Lancet* for the first half of the year 1895, it is evident that in none of the Oriental countries, having at that time their first few cases of what has since become a pandemic disorder, was great apprehension felt of any very serious invasion of the disease; so in but few instances were proper or adequate measures taken to prevent the entrance of plague, or to check its spread when once it had gained a foothold.

To-day, in California, we are confronted with the questions: What shall be done with actual or suspected cases of plague if found here? How shall we treat them, and what shall we do to prevent the development of additional cases? For answers we turn to India, where government officials have had to combat opposition arising, not merely from commercial interest and lay ignorance, but also from the deep-rooted feelings of caste, race prejudice, and superstition regarding the tampering with objects of religious veneration.

Taking up the question of treatment first, we find that prior to the discovery of the prophylactic and curative serums, the treatment of plague cases was summarized as follows: The patient was to be moved into a pure atmosphere; cleanliness and good ventilation were enjoined; good food readily assimilated was to be given, together with stimulants, as alcoholic liquors, quinine, strychnine, etc.; mercurials, blistering, purgatives, or any form of treatment calculated to lessen resisting power were interdicted. The following curative serums are in use in India: Lustig's Heilserum and Yersin's serum. In addition, some few cases have been treated with a one-per-cent solution of atropine,

the patients being given four drops every few hours until the drug's effects on the pupils are noticeable. So far as recorded, the effects of this drug seem favorable, but no statistics showing the percentage of recoveries have been accessible. Lustig's Heilserum, according to Drs. Barker and Flint, yields about sixty per cent of recoveries, while the death-rate in untreated natives may run as high as eighty per cent. A full description of the method of preparing the Heilserum can be found in the article on the subject of plague in the *New York Medical Journal* of February 3, 1900, while a good description of Yersin's serum is presented in a pamphlet issued by the Government Printing Office at Washington, entitled "The Bubonic Plague," by Walter Wyman, Surgeon-General of the Marine Hospital Service. Administration of Yersin's serum, according to Dr. Wyman, is as follows: "The injection should be made into the subcutaneous tissue of the flank, the abdomen, or the back, prefacing the proceeding with a cleansing of the surface with a five-per-cent solution of carbolic acid or solution of mercuric chloride 1-to-1000. A large antitoxin syringe should be employed, and before using it should be nearly filled with cold water, and then submerged in water which should be brought to a boil and maintained at that temperature for fifteen minutes. After emptying, it should be allowed to cool before being filled with serum, as heat has an injurious action on the remedy, and the syringe may be clogged by the coagulation of albumen.

"When a case of plague manifests itself in a house, 10 Cc. of the serum may be administered to all persons exposed to the contagion. This should be repeated in ten days in order to prolong the immunity, and in a badly infected locality the injection should be repeated several times.

"The curative action of the serum is the more efficient the earlier in the disease the injection is practiced.

"Large doses should be given, 30 to 50 Cc., rather than smaller ones successively administered. Under the influence of the serum the fever decreases, and the swelling of the buboes rapidly diminishes. If this amelioration is not produced promptly, a second and even a third dose should be given until the fever and the general and local symptoms disappear. This is important, for so long as the bubo remains, especially if suppuration supervenes, the patient is liable to secondary infections."

The advice of Kitasato, the Japanese authority, is that convalescents from the plague should be kept in isolation for at least one month after apparent recovery, as there is in this dis-

ease not merely a tendency to relapse, but also, as in diphtheria and other infectious diseases, the specific germ continues in the excretions for a variable time after convalescence is well established. It is generally concurred in that, where plague prevails, bad hygienic conditions are always present. The disease gains foothold most readily in districts where there are present, as causes favoring the development and spread of the pestilence, accumulations of filth in houses and streets, incomplete removal of excrementitious and other sewage materials, crowding, and imperfect ventilation of dwellings. In India the following prophylactic precautions are observed as far as possible: "(1) Isolation of the infected area; (2) immediate report of cases and instant removal to the hospitals; (3) segregation of 'contacts;' (4) death of rats; (5) disinfection of premises and effects that have been exposed to the disease; (6) prevention of overcrowding and general sanitary improvement of the infected area. Domestic commerce between infected and non-infected districts is controlled and protected by railway inspection, the establishment of detention plague camps for suspects.

"In the great cities segregation camps are provided at their outskirts, where 'contacts' and the inhabitants of the infected quarter report for daily medical examination, but they are required to live in the camps at night only. The chief value, therefore, of these camps is to provide more sanitary dwellings, thereby enabling the natives to avoid exposure in a measure to the disease. With the resources at hand, it has been found entirely impossible to isolate all infected districts and residents therein."

Military cordon, where possible, is used, if necessary, to make quarantine effective. "The limiting and suppression of the plague in Astrakhan, in the latter part of 1878, were largely due to the enforcement of rigid quarantine laws, together with sanitary regulations. Three military cordons were established, one around each village, so that no one could pass either in or out until forty days after the last case of the disease. A second cordon was established around the entire group of infected villages, and a third around the whole province." The disease was completely eliminated by the close of January, 1879.

"Cases of plague should be removed to hospitals ventilated and lighted to the maximum as the absolute essentials, whatever other conveniences they may have, for experience in the East yields this conclusion: 'the organism does not seem to be able to develop virulently or to survive where there are free currents of air; hence it passes by and little affects well ventilated buildings.' "

The disease may be contracted in one of four ways: By inoculation through an abrasion in the skin, by respiration of air contaminated by dust from infected houses containing the germ, by exhalations from plague patients, and by drinking infected fluids or eating infected food. Plague not only affects rats, but is spread by them; therefore, measures should be taken to quarantine them or encompass their death quickly. It is admitted that in addition to rats and mice and their attendant fleas, beetles, bugs, cockroaches, and flies are a factor in the spread of contagion, hence in this country precautions should be taken to keep them away from the stricken and their effluvia. Other animals on record as suffering from plague are snakes, dogs, jackals, monkeys, squirrels, and deer. Horses, oxen, sheep, goats, and rabbits seem to be immune.

As to disinfectants. The consensus of opinion among authorities seems to be that the cheapest chemicals obtainable are also the best, notably the fumes of burning sulphur for disinfecting air spaces, on account of their destroying power over all kinds of vermin, sulphuric acid or mercuric chloride for destroying the noxious qualities of all effluvia from the afflicted patients or suspects, and whitewash for covering the walls of buildings suspected of being infected with plague.

In the March (1901) number of the *Occidental Medical Times* is an article by Quarantine Officer Kinyoun concerning a cheap form of garbage incinerator and crematory, in which the fuel employed is crude petroleum, delivered to the burner under 30 pounds steam pressure by means of a duplex pump. The apparatus is recommended as being very efficient as well as practically odorless. Appended to this article is a description of a simple form of disinfector for the use of formaldehyde gas combined with steam, the apparatus being comparatively cheap, yet highly efficient in the destroying of noxious germs on soiled clothing, etc.

The medicinal preventive measures which have proven most effective in the anticipation of attacks of plague are the Yersin serum and the Haffkine prophylactic, the first named being both prophylactic and curative, the latter preventive only. Reports vary as to the length of time that the Haffkine prophylactic is effective. The *Medical Review*, of London, says one year. Drs. Parker and Flint were given the indefinite answer of "several months." The Yersin serum seems to be preferred generally because of its efficiency, both as a preventive and as a curative agent.

Shall particular classes of population be subjected to more

rigid preventive measures than others? From the sanitary point of view, yes. Chinese, Japanese, and all other natives of Oriental, tropical, or subtropical countries should be considered objects requiring special attention in plague prophylaxis.

So far as the information at hand goes, prostitutes in India seem to be almost immune to the epidemic; yet no satisfactory reason for this immunity has been offered, and they should therefore be placed on the same footing as Chinese or Japanese regarding inspection and isolation. The quarantine regulations of isolated vessels should provide that not even deck sweepings shall be thrown overboard, but that all refuse of whatever character shall be burned in a furnace; so in caring for the infected in hospitals, detention camps, or quarters of whatever character, it is essential that all fomites, discharges, bedding, utensils, articles of wearing apparel, or any other objects whatever that may come in contact with the afflicted, shall be either effectually sterilized or absolutely destroyed by fire. Disinfection of dwellings should not be confined merely to those houses in which cases of plague have been found, but should include those which are liable to infection, either by reason of their location, or because of the character of their inhabitants. Such dwellings, after disinfection, should be opened thoroughly to sunlight and air, and left unoccupied for several weeks at least; and right here it may be said that the length of time which persons should be detained for observation who are suspected of having been in contact with plague cases or otherwise exposed to infection should be at least fifteen days from the date of last exposure, and no precaution against the spread of the disease that would be employed in the case of an actual plague patient should be omitted in the case of those detained on suspicion. Shall persons dying of plague be interred? Evidence at hand indicates that the plague bacilli are capable of indeterminate existence in soil, especially where moist, and will there multiply. The natural conclusion is that the burial of plague patients, even when packed in disinfectants, is at least open to objection. By far the better course with all bodies is cremation.

In conclusion, the following extract taken from the London *Lancet* of May 4, 1895, seems worth repeating: "Several deaths are alleged to have taken place at the Portuguese settlement of Macao from plague, and the disease is stated to have been prevailing there for about a fortnight. Communication between Macao and Hongkong is quite unrestricted, and this has given rise to a good deal of anxiety at the latter place, where the people are desirous of having a rigid quarantine enforced against

the settlement. His Excellency the Governor of Hongkong is opposed, however, to any action being taken in this direction, and this has led to the resignation of the unofficial members of the sanitary board. Without further particulars as to the exact nature and extent of the disease prevailing at Macao, it is difficult to pronounce any definite opinion on the matter. If the disease be veritably and indeed plague, it is indubitably contagious, and if any doubt exists as to the exact nature of the malady, all persons coming from Macao should at least be medically inspected, and segregated, if necessary. We strongly suspect that local unsanitary conditions have a good deal to do with the existence of this and other diseases in China, and that in any case the removal of these should occupy the attention of the people at Hongkong. It can scarcely be, we think, that the Governor and official members of the sanitary board would incur the responsibility of opposing the wishes of the colony in regard to the establishment of quarantine, unless they had some grounds for doing so of which we are ignorant at present."

In view of the subsequent development of plague at Hongkong, and its introduction from that colony into India at Bombay and Calcutta, as well as into European, South American, Australian, South African, and other seaports, the above extract is at least suggestive, and it is hoped that those in authority in this country will not allow any consideration, commercial or otherwise, to interfere with any measures which can be taken either to stamp out the invading disease if present, or to prevent its introduction if not already here.

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## THE TREATMENT OF CHRONIC GASTRITIS AND GASTRO-INTESTINAL CATARRH.

BY WM. WORMLEY, M.D., PHILADELPHIA.

The patient who will serve as my text for this subject is forty-five years of age. He was admitted to the hospital for treatment for alcoholism. After this condition grew better he began to suffer from abdominal enlargement, and on examination he was found to have ascites, with enlargement of the spleen and of the left lobe of the liver. With this condition he had that which is so common in cirrhosis of the liver, namely, gastrointestinal catarrh, chronic gastritis, and a mild enteritis. He did have three to six movements of the bowels daily, associated with abdominal pain. The gastritis was characterized by

poor appetite, and a disgust for food immediately on taking a mouthful or two. There is as yet no specific for cirrhosis, so we will turn to the treatment based on symptoms.

We find two groups: one due to portal obstruction; one due to biliary obstruction. The symptoms of portal obstruction were these, some of which I have portrayed: First, the gastrointestinal catarrh; secondly, the ascites; thirdly, the enlarged veins of the abdomen, rather a sign than a symptom. The occurrence of hemorrhage in the course of the gastrointestinal tract, either from the hemorrhage of the bowel or from the stomach, and the occurrence of hemorrhoids and the enlargement of the spleen, are all symptoms of portal obstruction.

A word in regard to the treatment of gastrointestinal catarrh. First, it must be dietetic; the patient must be given such a character of diet as is dependent on the analysis of the gastric contents, showing that the machinery is not quite up to par. In the majority of instances we find such cases associated with hyperacidity. Primarily, because of the catarrhal state, and because pain is thus often caused by fat, we begin with a milk diet; later largely a proteid diet, leaving out starches and sugars, for reasons that I will give when I bring up the dietetic management of gastritis. Some things can be done by external means. A favorite plan in sanitariums and hospitals is the use of some external form of stimulation in the shape of cold compresses applied over the abdomen at night, a girdle of napkins or towels wrung out in cold water, or a flannel could be used. It is wonderful what distress is relieved in cases of subacute gastritis and gastric catarrh in this way in which there are symptoms of flatulence, of ascites, and of eructations of acid materials, especially in patients who are wakeful because of these gastric sensations. It is remarkable what relief is given by such a bandage as the "Neptune girdle," as it is called.

Then in hyperacidity with the disgust for food, which patients have, and the subsequent nausea, the class of remedies to be used are the gastric sedatives, as the nitrate of silver, bismuth, belladonna, and cocoa. These four are the greatest help, and with a red tongue even coated with large papillæ with points that burn over the tongue and the gastric symptoms that I have mentioned, we can pretty well rely upon relieving the patient with one-fourth grain of silver nitrate one-quarter of an hour before meals. If there is hyperacidity, as indicated by the analysis, extract of belladonna may be added; if there is pain, opium; and particularly, if with the gastritis there is an enteritis, as here, and when the enteritis is due to the irritation of the acid, opium

is of very great value. Silver, belladonna, or extract of cocoa, 2 grains before meals, or 10 to 20 or even 30 grains of subnitrate of bismuth before eating, also relieves these symptoms. It is a curious thing that for years, for the last fifty years or more probably, nitrate of silver has been the remedy *par excellence* in the conditions I have just mentioned, especially if they are associated with that other common symptom of hyperacidity, a sense of gnawing or sinking or of actual pain three or four hours after meals. A gentleman told me this symptom appeared at five o'clock every afternoon; another two hours preceding a meal or four hours after breakfast, after luncheon, and after bedtime. Under these circumstances nitrate of silver was best. We cannot explain the reason why. We know that nitrate of silver stops the excessive secretion of hydrochloric acid. In addition we find that belladonna does the same thing, in the salivary glands.

There is a large group of cases of chronic catarrh or chronic gastritis with hyperacidity, or cases in which the gastritis is a minor factor, with the hyperacidity in excess, as in neurotic subjects, and indigestion with hyperacidity as the result, due to gastric neuroses, in which these drugs do well. In these cases we get some benefit from nitrate of silver, belladonna, bismuth, and sometimes must go a little further, if disappointed in the use of the remedies I have mentioned, and use the bromides and the salts of strontium in addition. I have attended patients with symptoms of hyperacidity, and relieved them of the distressing symptoms, especially of excessive flatulence of gas and excessive acidity, by the use of the bromides, particularly the bromide of strontium or the lactate of strontium; the bromides are infinitely more valuable than any other preparation. Ever and again we will see other symptoms, with acid eructations; they are the result of acidity, not because of the hydrochloric acid, but because of the excessive combination of the acids. These symptoms then are simple, from the excessive increase of acids, after meals, which give distress at all times. Here relief is given temporarily by the use of the alkalies, sodium bicarbonate in powder form an hour or two after each meal. But other alkalies can be employed, as the salts of magnesia, and especially magnesia in the dry form; these alkalies are indicated when with the hyperacidity there is constipation, and they should be given in good big doses. I have long since put away the idea of giving small doses. Administer a draught consisting of equal parts of magnesia, charcoal, and bicarbonate of sodium, an hour or so after eating; or, if charcoal does not seem to relieve the

flatulence, use benzonaphthol, or the benzosulphocarbolate of soda; or, instead of giving it in bulk in this manner, I use creosote combined with bicarbonate of sodium, usually given two or three hours after a meal in five drops of spirits of chloroform, or in a little mint water for flatulence and discomfort with hyperacidity. By "discomfort" I mean distention after eating. The patient usually suffers from pain and poor appetite. Relief is afforded these symptoms by the measures that I have suggested.

Of course, in chronic cases of this character, whether catarrh of the nose or of the bronchial mucous membrane, you will probably not get the patient well until you have used the best and most careful measures. Here the cause is to be removed. However, it is harmful to eat at times when one is fatigued; when worried or under undue excitement, digestion does not go on; the process is arrested, or goes on imperfectly. The result is that the stomach and intestinal tract are loaded up, and a large portion of the materials is not digested. For example, two or three days ago I saw a case where the patient, who was not very well and not naturally a very strong woman, had hurried after a long drive to the train, luncheoned under some excitement, and then began to show signs of nausea and vomiting, followed by diarrhea, extreme distention of the stomach, and extraordinary discharges of gas. At the acme she suffered from cramps, atony secondary to the acute dilatation of the stomach, or, perhaps, atony due to the inception of ptomaines; but certainly she suffered in the extreme, and fell into collapse with no relief whatever. Drugs such as opiates could not do anything at all for her, until I washed out her stomach and intestinal tract, and removed the materials that were the source of the poison. For washing out the stomach I used alkaline waters, as bicarbonate of soda dissolved in water; any water we have at hand will do if we use the bicarbonate of soda. Her extreme indigestion, gastric and intestinal, with ptomaine poison, was not from any particular food, for she ate the simplest kind of food, nor from the amount of food; it was only from the time or the surroundings and the circumstances under which she partook of it; and, if this is repeated, and if such attacks in extreme moderation keep up, we can see how readily gastritis can be set up. Overeating and eating under improper circumstances—all these elements have to be removed before we can have any success in the treatment. In addition to the tonics and stimulating treatment, there should be relief from all the cares and anxieties, in the broadest manner possible, including proper rest. The remedies

are to be taken in the tonic form; then massage and outdoor living, and exercise properly regulated.

When this next patient first came in he had six or seven stools a day or more; now he has two and three a day. He was much relieved by curing the gastritis causing the gastrointestinal disorder as secondary to the gastric catarrh, but in doing it we employed such remedies as intestinal antiseptics. We give those which are not dissolved in the stomach, but which are hastened down into the intestinal tract. Naphthol and salol are good types; creosote, sulphocarbolate of soda, benzonaphthol, and trional are other very good examples. Diastase helps to control the enteritis and catarrh of the intestinal tract, while bismuth is good of course at times, when with the catarrh there is increased peristalsis and hypersecretion. We have other remedies which control these symptoms, as the astringents, preparations of chalk and bismuth, kino, catechu, and other vegetable preparations that control the peristalsis; also preparations of opium in large or small amounts. Two other astringents are the aromatic sulphuric acid and camphor.

Diarrhea is usually due to the enteritis, but sometimes with the enteritis there is such depression of the nervous system, such marked secretion of liquid from the intestinal tract causing inhibition of the nervous control, that we can see readily that stimulants are indicated. The class of stimulants are those I mentioned, as camphor alone or combined with opium or with aromatic sulphuric acid, or perhaps with Hope's camphor mixture, will stop the diarrheas, when other measures that you have been using, astringents particularly, are of no avail. Now we did not allow our patient to go that far. Wash out the intestinal tract, and in that way relieve the patient. The aromatic acid for the same type of diarrhea does well. This is for the simpler forms of enteritis, for I will not discuss enteritis and colitis due either to the bacilli of Chaggi or to the so-called forms of amebic dysentery.

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According to recent statistics, the average consumption of tobacco by each person in the various countries of the world is as follows: Netherlands, 3400 grammes; United States, 2110; Belgium, 1552; Germany, 1485; Australia, 1400; Austria and Hungary, 1350; Norway, 1335; Denmark, 1125; Canada, 1050; Sweden, 940; France, 933; Russia, 910; Portugal, 850; England, 680; Italy, 635; Switzerland, 610; and Spain, 550.

# THE MEDICAL AGE.

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EDITED BY FREDERICK W. MANN, M.D.

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## EDITORIAL ARTICLES.

### PROCHOWNIK'S DIETARY FOR DYSTOCIA.

A German physician has recently directed attention to the value of the regimen prescribed by Prochownik, employed as a prophylactic measure in cases of narrow pelvis, or with women in whom dystocia has been due to the large dimensions of the fetus. This regimen, which was inspired by the practices of some old French obstetricians, exercises an influence on the nutrition of the fetus, temporarily arresting its growth, and so enabling it to pass easily through the retracted pelvic strait. Prochownik's regimen does not in any sense resemble that which was suggested by Dewees, an American physician, in which the patient was given a dietary manifestly inadequate, and was frequently purged and bled. Prochownik's scheme is gentler and purely dietetic. It is only followed during the last three months of pregnancy. It includes roast and boiled meats, without sauces, fish, green vegetables, salads, cheese, butter, and bread in small quantity. As beverages about 300 grammes of light wine are allowed, but no water. Soups, potatoes, farinaceous foods, and beer are proscribed, and sugar is replaced by saccharin.

This dietary was tried by Prochownik in three cases of women who had been obliged to resort to premature delivery, and it gave complete success—that is to say, the children which were delivered at term were slender and graceful, and their ulterior development proceeded normally.

The physician alluded to has tried this method during the last two years, and asserts that the children come into the world small and thin, and depleted of fatty tissue. The passage of the pelvic strait is easily accomplished, always more easily than in ordinary conditions. The method is applicable in three classes of cases: First, in those of narrow pelvis, in which this defect is not inordinately accentuated; if this be so, premature delivery is

the only resource. Secondly, in cases in which the dystocia has previously been due to the excessive dimensions of the fetus. Thirdly, in cases of primiparæ of over thirty years of age.

The regimen is one which it is averred can be tried without danger to the mother, and the ulterior development of the child goes on normally and without prejudice.

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## EDITORIAL NOTES.

### The Teaching of Obstetrics.

There seems to be a complaint of late that the practical teaching of obstetrics in England is not carried out as it should be. Students are not compelled to be on duty at any lying-in hospital. This condition exists to a greater or less extent in this country, where only a few favored students have, during their senior year, a chance to attend confinements. As this is one of the most important branches of the medical art, and one which the young practitioner is first called upon to perform, better provision should be made by the various colleges of the country for the teaching of the practical part of obstetrics.

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### The Medico-Psychology of Ibsen.

In eleven of Ibsen's dramas, according to the diagnosis of a French physician, there are an unusual number of degenerates. There are five cases of mental degeneration with obsession, five cases of degeneration with hysteria, five cases of degeneration with debility, two cases of moral idiocy, two of maniacal excitement, three of melancholia, seven of alcoholism, one of senile dementia, and one of chronic delirium. It would seem that this distinguished author has found the study of psychoses to be a profitable one for dramatic purposes.

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### A Blood-parasite in Epilepsy.

An increasing amount of testimony is accumulating going to prove that epilepsy will be found of microbic origin. Magnan has recently found a microörganism in seventy cases of epilepsy that he has recently examined. These organisms were usually

found in chains resembling diplococci; they color well with anilin stains, but do not stain well with Gram's fluid. He is making experiments by intravenous injections of broth cultures in guinea-pigs.

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## A Ridiculous Measure.

One of the silliest of the many silly measures that from time to time are introduced in the various State legislatures of the country is the one recently proposed by a member of the New York legislature, whereby he would have enacted a law requiring that any operation upon a woman in that State shall be witnessed by three of her nearest relations, who are to remain with her until the completion of the operation. It has been the experience of all surgeons that the presence at an operation of friends or relations is decidedly poor policy, and very few operators will give their consent to having them about at such a time. What abuse this legislator is attempting to correct is hard to see, and the enactment of such a law can only lead to suffering. However, the legislature of New York, having shown such good sense in disposing of the osteopaths, can be relied upon to vote down this measure.

# ITEMS AND NOTES.

The plague mortality in India is still on the increase.

An epidemic of scarlet fever is reported at Millville, New York.

An epidemic of diphtheria is reported among the Pueblo Indians.

The new medical building for Toronto University will soon be under way.

The Congress of French Physicians of America will be held in June at Quebec.

The University of Paris has 245 professors; of these, 76 are in the medical faculty.

An epidemic of influenza which has been raging in London for some time has markedly diminished.

There is an epidemic of measles among the half-breed residents of Malago Islands, Casco Bay, Maine.

Cholera has broken out among the pilgrims at Medina. Medina is 250 miles north of Mecca, Arabia.

Reports from Alaska show a prevalence of scurvy in many cities on account of the lack of fresh vegetables.

The highest of the noted health resorts of California are in the San Jacinto Mountains at elevations of 8000 and 9000 feet.

Dr. St. J. B. Graham has now become editor and sole owner of the *Georgia Journal of Medicine and Surgery*, of Savannah, Georgia.

The number of students at McGill University in the various departments is 1114; of this number 490 are in the department of medicine.

From June until November, 1901, the total number of cases of typhoid fever among the British troops serving in South Africa was 3336.

Charles H. Mulroney, surgeon U. S. C. S., reports under date of January 29, from Sitka, Alaska, that about 1400 natives of southeastern Alaska were vaccinated by him in the summer season of 1901.

The sculptor Harro Magnussen has been commissioned to execute a marble bust of Haeckel, professor of zoölogy and comparative anatomy at Jena.

Dr. Herman Knapp, the celebrated ophthalmologist of the College of Physicians and Surgeons of New York, recently celebrated his seventieth birthday.

The Cross of the Legion of Honor has been conferred by President Loubet, of France, on William H. Tolman, of New York, for his work in behalf of the poor of that city.

Smallpox in the United States, as officially reported from December 28, 1901, to March 7, 1902, amounted to 20,044 cases with 615 deaths. The total for the corresponding period in 1901 was 7637 cases and 104 deaths.

Owing to the large number of army invalids at the medical quarters at the Presidio Barracks at San Francisco, it has been found necessary to establish a temporary health resort for the regular army at Fort Niobrara.

Senator Hale has introduced a bill providing for an increase in the medical corps of the navy, by making the active list of surgeons consist of seventy, and that of passed assistant surgeons of one hundred and thirty-five.

The medical department of the University of Pennsylvania will establish a postgraduate medical school this spring to correspond to the "Ferien-Curse" of the German universities. The courses will be from four to six weeks' duration.

The Senate report on the Legislative, Executive, and Judicial Bill for expenses for the year ending June 30, 1903, recommends that the salary of the supervising surgeon-general of the United States Marine Hospital Service be increased from $4000 to $5000.

The thirty-first German Congress of Surgery was held at Berlin, April 2 to 5. Seven communications were read upon the treatment of wounds; Gussenbauer, Petersen, and von Mikulicz discussed cancer; and several others spoke upon the subject of abdominal surgery.

Acoine is the name of a product destined to rival cocaine, morphine, chloral, and other anesthetics. A drop upon a gnawing tooth diminishes pain. Its properties were recently reported to the French Academy of Medicine by Dr. Chauvel, based upon experiments. It is claimed that acoine is not toxic.—*Exchange.*

It is recorded of Dr. Barclay, who was in his day a famous teacher of anatomy in Edinburgh, that, addressing his class, he used to say: "Gentlemen! Vesalius and his fellows were the reapers in the great field of anatomy; John Hunter and his brethren were the gleaners; and we, gentlemen, we are the stubble geese!"

Dr. Albert Robin, bacteriologist and pathologist of the Delaware Board of Health, strongly deprecated the "patent medicine habit" in a paper (*Philadelphia Medical Journal*) read before the Philadelphia College of Pharmacy, February 18. Patent medicines demoralize the people by engendering constant dread of disease, so-called pathophobia. Dr. Robin told how a vaunted remedy sold at $1 a box was composed of granulated sugar; how certain opium cures contain morphia; and tonics, especially recommended for inebriates, are largely made up of alcohol.

M. Armand Gautier announces in the *Comptes Rendus* that he has found that injections into the blood of minute amounts of sodium methylarsenate is a cure for malarial fever. He reports the complete recovery of nine patients who had contracted in Africa malaria of so severe a type as to be refractory to large doses of quinine. Blood-tests were made, and the disappearance of the specific hematozoa always followed the treatment; it also suppressed the anemia associated with malaria. The best dosage and means of administration, whether by mouth or hypodermically, must be determined by further research.—*American Medicine.*

An international congress for the relief of the blind will be held in Brussels, August 6 to 10, 1902, at the Palais des Academies. An invitation is extended to the United States to be officially represented. The membership fee is 10 franc, or $1.93, and women will be admitted to participation. The questions to be discussed are: Trades and professions by which the blind support themselves; expert aids in workshops of the blind; advantages and disadvantages of boarding schools and day schools for the workshops of adults; admission in schools and workshops of persons afflicted with only partial blindness; stenography for the blind; recreation for schools of the blind; causes of blindness in populous centers and methods of struggling against such causes. —*American Medicine.*

A committee of the College of Physicians of Philadelphia announces a prize of $500 to be awarded to the author of the best essay, embodying original observations or researches, on "The

Relation between Chronic Suppurative Processes and Forms of Anemia," submitted on or before March 1, 1903. Essays must be typewritten, designated by a motto or device, and accompanied by a sealed envelope bearing the same motto or device, and containing the name and address of the author. No envelope will be opened except that which accompanies the successful essay. Unsuccessful essays, according to the *Medical Record,* may be reclaimed by their respective writers or their agents within one year. The committee reserves the right not to make an award if no essay submitted is considered worthy of the prize. The competition shall be open to members of the medical profession and men of science in the United States. The original of the successful essay shall become the property of the College of Physicians. The trustees shall have full control of the publication of the memorial essay. It shall be published in the Transactions of the College, and also, when expedient, as a separate issue. The essays offered in competition may be sent to Dr. J. C. Wilson, 219 South Thirteenth Street, Philadelphia, Pa.

The American Association of Urologists was organized on February 22, 1902, essentially for the purpose of further development of the study of the urinary organs and their diseases. Although most of the founders of the Association are specialists in genito-urinary diseases, membership is not limited to those engaged exclusively in this specialty. Thus gynecologists, who embrace renal and vesical surgery in their work, are among the founders, as are also several gentlemen who devote themselves to the microscopy and chemistry of the urine, as well as a number of practitioners interested in the study of the kidney from a medical standpoint. The association consists of active, corresponding, and honorary members, and is in great measure modeled upon the plan of the Société Francaise d'Urologie, modified to suit American circumstances and conditions. Whenever possible, the branch associations throughout the United States, British possessions, and Spanish America will hold their meetings on the same evenings as does the parent association in New York (the first Wednesday in each month). The work of the association is principally clinical, for the demonstration of new methods in the technique of examination and treatment. The annual meeting of the American Association of Urologists will be held on the last day of and the day following the annual meeting of the American Medical Association. The officers of the association are: Ramón Guiteras, M.D., president; Wm. K. Otis, M.D., vice-president; John Van der Poel, M.D., treasurer; Ferd. C. Valentine, M.D., secretary; A. D. Mabie, M.D., assistant secretary.

# NEW PUBLICATIONS.

## A SYMPOSIUM ON SYPHILIS.

In this interesting little book are gathered together the opinions of seventeen writers, who are nearly all syphilographers of prominence, upon the phases of the disease from its various points of view. It is gratifying to find almost universally expressed the belief that this disease, which is neither as wide-spread nor as fatal as tuberculosis, is a curable disease, and one from which its victim save in rare cases should invariably recover. There are several little side issues which are discussed in this volume, such as syphilis of the stomach, the diagnosis of syphilis in the wet-nurse, and so forth, all of which, as well as the discussion of the general theme, are ably handled.

Syphilis. A Symposium Composed of Contributions by Seventeen Distinguished Authorities. Edited by E. B. Treat & Co., 241-243 West 23d Street, New York.

## DRUG HABITS AND THEIR TREATMENT.

The author of this work has been foremost for many years in studies of inebriety, and his influence has been notable in establishing a true recognition of this form of neurosis. He has also contested vigorously for the notion that alcoholism is a curable condition. In the present work the author discusses the alcohol, morphine, and cocaine habits, and even touches upon such drug habits as those of gelsemium, paraldehyde, and tea, among many others.

The book is a useful one and reflects its author's manifest enthusiasm for the subject with which it deals.

The Drug Habits and Their Treatment. A Clinical Summary of Some of the General Facts Recorded in Practice. By T. D. Crothers, M.D., Superintendent Walnut Lodge Hospital, Hartford, Conn.; Professor Diseases of the Brain and Nervous System, New York School of Clinical Medicine. Pages 96. Price, $1.00 net. Chicago: G. P. Engelhard & Co., 1902.

## A HANDBOOK OF APPENDICITIS.

The author discusses the subject of appendicitis from the modern standpoint. His operative technique is amply illustrated by woodcuts and descriptive text. A valuable chapter is the one on differential diagnosis, a matter to which, in these days of hasty surgery, more attention may reasonably be given. There is little doubt that the appendix is often removed for intestinal colic. The little book covers the subject very completely.

A Handbook of Appendicitis. By A. J. Ochsner, M.D., Professor of Clinical Surgery, College of Physicians and Surgeons, Medical Department of the University of Illinois; Surgeon to the Augustana Hospital, etc. Pages 182. Illustrated. Bound in red cloth; Price, $1.00 net. Chicago: G. P. Engelhard & Co., 1902.

# THE PROGRESS OF MEDICAL SCIENCE.

## SURGERY.

### X-ray Burns.

E. A. Codman (*Philadelphia Medical Journal,* March 15, 1902) says that the frequency of *x*-ray injuries has been much exaggerated by the medical press owing to the wide publicity given to many early cases.

The writer has been able to collect somewhat less than 200 cases, less than half of which were serious, and about one-third of which occurred in *x*-ray workers.

Judging from the experience with these injuries in Boston, it is the writer's opinion that a fair proportion of the severe burns are included in this series, while the dermatitis of skiagraphers is less well represented.

At a maximum estimate it is safe to say that not one patient in a thousand has been injured in the past five years by an *x*-ray examination, and in the past year not one in ten thousand.

More than two-thirds of these injuries occurred in the first two years of the use of the *x*-ray. Only one mild case is reported as occurring in the current year, those cases in which the exposure has been made for therapeutic purposes being excluded.

The cause of *x*-ray injuries is not definitely known. It is some form of energy closely allied to the photographically active *x*-ray, and radiates with it from the platinum terminal.

The primary injury is to the nerves controlling the nutrition of the skin.

There is no good evidence of injury to the deeper tissues without primary interference with skin.

The important factors which contribute to the production of *x*-ray burns are: the intensity of the current used to stimulate the tube; the quality of the tube; the distance and time of exposure; the idiosyncrasy of the patient.

The static machine is somewhat less likely to produce injury than other forms of apparatus.

From the data of the reported cases we can say that no burn has been produced by an exposure equal to or less than the equivalent of five minutes at ten inches.

It is impossible from the data to say how intense an exposure must be to produce a burn, for a comparison of the cases shows that an inconstant factor or factors exist. These inconstant fac-

tors are more likely to lie in the complex human organism than in the less complicated construction of the tube.

General experience has shown that soft tubes produce a more intense effect on the tissues than hard.

While we cannot control these inconstant factors, therapeutic exposures will continue to be dangerous, and it is therefore important to record the exact conditions of the patient's local and constitutional idiosyncrasies, as well as those of the tube.

In cases of injury the time before the appearance of the first symptoms has varied from a few minutes to three weeks. Five cases have remained latent for over three weeks; two of these for five months.

It is impossible to predict the severity of the lesion from the time of its appearance after exposure.

The writer suggests ten minutes at six inches from the platinum terminal as a standard therapeutic exposure. This will make comparisons between the inconstant factors easier.

Unless signs of dermatitis appear within three weeks after the exposure, they are unlikely to appear at all. In one-third of the reported cases the appearance occurred within the first four days; in one-half the cases before the ninth day.

In ordinary *x*-ray examination with fluoroscope or skiagraph, the operator takes the entire responsibility of injury; in exposures for therapeutic purposes the patient shares the responsibility.

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## The Origin of Carcinoma of the Stomach from Chronic Round Ulcer of the Stomach.

G. Fuetterer (*Journal of the American Medical Association*, March 15, 1902) says that if a carcinoma develops from a chronic ulcer of the stomach, then the development occurs from those parts of the edges of the ulcer which are most exposed to mechanical irritation by the contents of the stomach.

In the pyloric region it is the lower pyloric margin of the ulcer which is most exposed to mechanical irritation, and from which carcinoma develops. But other parts of the edges may be the ones involved when dilatations and adhesions have changed the position of the organ.

Development of carcinoma from ulcers of the stomach in the pyloric region occurs with great frequency, while such a development occurs less often in other parts of the stomach.

If what has been said is correct, then we must, in all cases in which an ulcer of the stomach or its scar narrows the pylorus,

recommend an early gastroenterostomy, to prevent the development of carcinoma. If a gastroenterostomy has been made, then the mechanical irritation of the ulcer in the pyloric region by food is reduced, and the severe friction necessary to produce a carcinoma will probably not occur.

A patient suffering from the consequences of a stenosis of the pylorus, particularly if this is caused by ulcers and scars, should, if a gastroenterostomy is not performed, be advised to eat slowly and little at a time, and to be particularly careful about carbohydrates and especially hard crusts of bread; he should avoid crisply fried or other coarse food, and should as much as possible confine himself to liquid or semiliquid foods. A good deal of fatty food should be recommended.

Elderly people in particular, who have but few or no teeth, and a saliva which is insufficient in quantity and quality, must be most carefully advised as to their diet, and to such cases taka-diastase should be administered.

From the fact that carcinoma does not develop from the large ulcers alone, but may be developed from the very smallest, the prognosis of ulcer of the stomach is bad. Our aim, therefore, should be to prevent the formation of ulcers, rather than to heal them after they are formed, and this may be done, at least to a certain extent, by the energetic treatment of all cases of chlorosis and secondary anemia that come under our observation.

After reviewing the literature, we are now in a position to say that no one before us had laid stress on the fact that carcinoma of the stomach, which develops from an ulcer, originates from certain parts of their edges, and that this, while of importance in itself, will prove to be of great value when it is sufficiently considered in reference to the etiology of carcinoma in general.

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## The Etiology of Prostatic Hypertrophy.

Speaking editorially, the *Medical Press* of March 15 has the following to say in regard to the etiology of prostatic hypertrophy:

"It is really somewhat remarkable that so little should be known of the cause and pathological nature of the prostatic hypertrophy which embitters the declining years of so many elderly men. To call it an 'idioplastic tumor,' as did Sir Henry Thompson, does not help us greatly to understand its causation, especially as the tendency of age is in the direction of atrophy rather than hypertrophy so far as the genital organs are con-

cerned. More plausible is the view promulgated by Reginald Harrison, viz., that the hypertrophy is due to overexertion of this particular organ, being akin to the cardiac hypertrophy resulting from prolonged strain. This view, however plausible, is not absolutely in accordance with clinical experience, which favors the theory that overexertion—that is to say, chronic cystitis or venereal excesses—though it exaggerates any preëxisting condition, does not *per se* lead to hypertrophy, in the absence of some other ill-defined factor. On the whole it seems more reasonable to regard the overgrowth as analogous to fibromyoma of the uterus. This view concords better with the erratic occurrence of this morbid development, and makes it essentially a constitutional condition rather than an accidental or acquired infirmity. After all, however, the most plausible explanation is but a mere hypothesis, only a little more respectable than those speculations which bring diet, occupation, modes of living, abstinence and indulgence, sexual habits, gout, rheumatism, and gonorrhea into direct or indirect etiological relationship with the disease. As is almost invariably the case when the etiology has not been cleared up, the pathology of the disease is also incomplete. Our ignorance of these fundamental facts concerning prostatic hypertrophy has fortunately not deterred surgeons from working at the problem of its relief, with more or less success; but in a condition the consequences whereof are essentially of a purely mechanical nature the relief under the circumstances can only be partial and incomplete, hence the importance of studying the means of preventing its occurrence."

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## The General Pathology of Tumors.

In the third of the Erasmus Wilson lectures delivered before the Royal College of Surgeons of England, White (*Lancet,* Feb. 22, 1902) discussed the general pathology of tumors. He made the following summary:

(1) Tumors are to be classified on a histological basis. The best mode of effecting this is to make use of the threefold basis of cells, tissues, and organs. (2) The rudiment from which a tumor springs may consist (*a*) of the structures normally present at the point of origin; (*b*) of an embryonic collection of cells such as is described by Cohnheim; or (*c*) of tissues of new formation, the result either of an inflammatory condition or of a previous tumor formation. (3) Extrinsic factors play a part in tumor causation, but are not the determining factors—that is,

the occurrence or non-occurrence of a tumor does not depend on extrinsic factors. In particular the parasitic theory is shown not to stand a critical investigation. (4) The determining factor of tumor causation is to be found in the intrinsic factors. (5) This determining factor consists in the existence of a condition of unstable equilibrium between the intercellular forces, so that proliferation, once started, is progressive and is not limited by the resistance of the surrounding tissues. (6) The causes of this instability are many and various, and may be either intrinsic or extrinsic. (7) Proliferation having started, the cells acquire the habit of growth—that is, the power of independent proliferation which enables them to proliferate in parts of the body in which the condition of equilibrium is stable. (8) Tumors grow by proliferation of their own cells. (9) Tumors do not invariably continue to increase without limit. Under certain circumstances they may cease to grow, may diminish in size, or may even disappear completely. (10) Tumor formation is not to be regarded as an isolated process, but is to be considered as one of a group of progressive processes with which it is closely allied. Still less must one form of tumor, such as carcinoma, be considered apart from the others.

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## MEDICINE.

### The Early Diagnosis of Pulmonary Tuberculosis.

J. E. Stubbert (*New York Medical Journal,* March 1, 1902) says that perhaps the most important of all signs of early tuberculosis are to be found in the general condition of the patient. Gradual loss of weight and increased activity of heart action should always lead to an examination of the chest. These are accepted principles, but it is just because they are acknowledged and accepted, with the absence of decided physical signs, that we are too prone to attribute the general poor condition to other than tuberculous causes, and so many patients with their disease unrecognized in an incipient and curable stage are allowed to pass into a moderately advanced condition.

Among the other symptoms in very incipient cases of tuberculosis may be any of the following, alone or severally: A slight hacking cough, with or without some expectoration—first eliminating any possible local cause in the larynx or pharynx—slight night sweats, perhaps only sufficient to cause a "moist feeling;" rise in afternoon or evening temperature, possibly of but two- or

three-fifths of a degree; loss of appetite and deranged digestive functions, accompanied by the loss of a few pounds in weight; hoarseness; feeling tired in the afternoons; blood-spitting, or even small hemorrhages. I have seen cases in which, after a small hemorrhage of two or three ounces, no physical signs could be definitely determined until weeks afterward. A rapid pulse, accompanying some of the above mentioned symptoms, always over 100 or 110, should lead us to suspect tuberculosis. The physical signs may be scant, and therefore should be searched for very carefully. Inspection may show the clavicle more prominent, with flattening in the supra- and infra-clavicular regions. Expansion may be slightly diminished, and is very often difficult to determine; to say the least, it is very indefinite.

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### Researches into the Nature of Tuberculosis and its Bacillus.

Ferran (*Revue de Médecine; Medical Record,* Feb. 15, 1902) holds that he has discovered a new bacillus, which he calls "phthisiogenetic," because of its action, or "spermigenetic," because it produces spermin, which he considers to be the true agent in the diffusion of tuberculosis. It can be cultivated without the use of a culture oven, and in any of the nourishing media used, which would account for the extreme diffusibility of tuberculosis. The author holds that tuberculosis is invariably preceded by parenchymatous or interstitial phlegmasia, and that, indeed, no tubercles ever form without this phlegmasia. Injections of dead cultures of the new bacillus confer immunity against the phlegmasia, and hence against tuberculosis. To obtain a truly antituberculous serum, animals must be hyperimmunized with tuberculous pus, all living bacilli in the pus having been destroyed. The serum thus obtained is positively tuberculosis antitoxin.

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### Tuberculosis.

C. L. Green (*St. Paul Medical Journal,* March, 1902), in an address before the Minnesota Sanitary Conference, which held its meeting recently at St. Paul, said that the medical profession should demand a national board of health with a medical cabinet officer at its head; that the profession should disseminate information relating to the infectiousness of tuberculosis until every man or woman should know the truth; that there should be a rigid

insistence upon the enforcement of the laws against spitting in public conveyances or upon walks or roadways; that the profession should demand thorough and frequent disinfection of all sleeping-cars, hotel apartments, and public buildings, also that there should be a most rigid inspection of all meats used as foods; that the profession should use its efforts to provide sanatoria and hospitals for the consumptive poor.

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### Transmission of Consumption.

L. H. Behrens (*Interstate Medical Journal,* February, 1902) says that human sputum stands preëminent when tubercular in the transmission of consumption. Hereditary consumption is rare and can be dismissed with passing notice, but that the predisposition is inherited and that immunity is rendered to the offspring of the consumptive born during the disease of parent is far from being proven. The writer says that meat, milk, cheese, butter, etc., derived from cattle and animals infected with tuberculosis, can produce tuberculosis in the human being. He says that laws more stringent regarding expectoration, isolation, inspection of animals, hygiene, and sanitation should be enforced. If these were done Behrens says he thinks that consumption would belong to that class of diseases, such as scurvy, smallpox, cholera, etc., heard of frequently, but seldom seen.

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### Obliterative Pericarditis with Hepatic Enlargement and Ascites.

Pseudocirrhosis of the liver due to pericardial adhesions is, according to E. W. Becker (*Philadelphia Medical Journal,* March 15; 1902), a distinct entity. The writer says that in all cases of this condition at autopsy the pericardial sac has been found obliterated.

Autopsies have shown in all recorded cases that the ascites is due to passive congestion of the liver, causing a connective tissue formation with subsequent contraction and obstruction of the portal circulation, the result of obliterative pericarditis.

In all cases of enlarged liver with ascites without edema or enlarged spleen, a very careful examination should be made of the heart to determine whether the symptoms are not due to chronic pericarditis.

The presence of ascites with enlarged liver and systolic retraction of the precordium, together with absent or later appearance of edema of ankles, is of great diagnostic value in determining the presence of chronic pericarditis.

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### The Implantation of the Tubercle Bacillus.

L. F. Flick (*Philadelphia Medical Journal*, March 22, 1902) says that the seed supply for new implantations of tuberculosis is derived almost entirely from human sources, especially the sputum of consumptives. Seed supply for new implantations of tuberculosis can be derived from animal sources. The tubercle bacillus enters a host through the lymphatic system in the alimentary canal, the respiratory tract, and the skin. The forces which convey the tubercle bacillus to its place of destination within a host are the lymph current and the blood current. The place of deposit is no indication of the port of entry of the tubercle bacillus, except when deposit has taken place in the bronchial lymphatic glands or in the mesenteric lymphatic glands. Interference with the circulation of a part, whether by traumatism, inflammation, or vasomotor disturbance, prepares the part for tubercular deposit. Germination and colonization do not always follow tubercular deposit.

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### In Regard to Experimental Pulmonary Phthisis.

Baumgarten (*Wiener Medicinische Wochenschrift*, 1901, No. 44) says that although heretofore only miliary tuberculosis and not pulmonary phthisis could be experimentally produced, this experiment demonstrated that very virulent bacilli passed from the uninjured urethra and bladder into the organism and caused phthisis of the upper lobes of the lungs in the animals experimented upon. By the gradual introduction of bacilli at regular intervals in this manner the susceptibility of the apices of the lungs for tubercular infection can also be demonstrated.

As the beginning of phthisis in the apices of the lungs has been the principal argument in favor of the inhalation theory, likewise, on account of the results of Baumgarten's experiments, it is almost imperative that one consider a circulatory origin for human pulmonary phthisis, in favor of which both Ribbert and Auffrecht have recently expressed themselves.

### Skin Eruptions in Malaria.

D. Riseman (*American Medicine,* March 22, 1902) says that skin eruptions are not rare in malarial infection, the most frequent being herpes and urticaria. Neither of these presents any specific character. Both may occur in any stage of the malarial paroxysm, although urticaria is most frequent in the febrile, and herpes in the sweating stage. In obscure cases herpes and urticaria, especially the former, may have considerable diagnostic value. Three types of urticaria are recognizable: that accompanying the paroxysm, usually the febrile stage; that taking the place of the chill; and that substituting the entire paroxysm. In their appearances these three do not differ among themselves, nor from urticaria due to other causes. In cases of urticaria of obscure etiology, the blood should be examined for plasmodia. Whether found or not, quinine is worthy of a trial.

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## THERAPEUTICS.

### Artificial Infant Feeding.

S. A. Visanska (*Pediatrics,* Feb. 15, 1902) says that endeavoring to feed a baby artificially, three important factors are to be borne in mind: First, the quantity of the food; secondly, the quality of the food; thirdly, the individual peculiarities of the child. The writer says that one of the most frequent mistakes made in feeding a baby is that of giving it a much greater quantity of food than it can possibly assimilate, with a result that a child either vomits it or passes it through the bowels in an undigested state.

Regarding the character of food to be given a child, that is its quality, it is evident that the more closely the food resembles mother's milk the more likely it is to agree with the child. The writer says that his experience has taught him that modified cow's milk is the ideal artificial food for feeding infants. He says that the method he has adopted for feeding babies is that of Professor Seibert, and that is to feed according to the weight and not the age of the child. Visanska says that it is of no advantage to have the milk from one cow, it is in fact a distinct disadvantage, for the great difference which exists between milk of different cows makes it impossible to prepare a proper imitation of mother's milk, according to any fixed rules, unless we should have individual cow's milk analyzed in order to determine in just

what way the mixture should be made. Besides this, the milk of any cow is subject to variations from time to time, depending upon the nature of the food given it, the health of the animal and other factors.

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## Experimental and Clinical Research into Cocaine and Eucaine.

G. Crill (*Journal of the American Medical Association,* Feb. 22, 1902) says that in the clinical use of cocaine and eucaine, particular attention is to be called to a most important feature, viz: that shock is almost wholly avoided, because all afferent impulses are blocked. It is now known that afferent impulses set up by injury or operation are the causes of shock. These impulses are but slightly modified by general anesthesia. The afferent impulse, constituting pain, is abolished by general anesthesia, but those affecting the vasomotor, the respiratory, and the cardiac mechanisms are not controlled; but cocaine or eucaine absolutely blocks their passage, making a physiologic amputation of the part. These anesthetics wholly prevent reflex inhibition, the principal causes of collapse in certain operations and injuries, *e.g.*, operations on the larynx and pharynx. Given hypodermically, the experimental evidence shows that they diminish shock in operations on the splanchnic area and absolutely alter this area in the processes of operation or exposure, as abundantly proved by the series of double experiments.

Crill had but two opportunities of testing this clinically, both in operations for gunshot wounds of the intestines, and in each the experimental evidence seemed to be corroborated. Comparative results require such a large number of observations that he prefers for the present to offer no more than the clinical suggestion.

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## A Few "Don'ts" in the Management of Cerebral Hemorrhage.

Wm. Browning (*New York Medical Journal,* Feb. 15, 1902) in the course of an article on the management of cerebral hemorrhage emphasizes the following "don'ts:"

Don't give stimulants. Their use in such cases is most reprehensible. So often we see them freely given, notably the alcoholic. The patient is prostrated, and the lay mind naturally turns to tonics and bracers—about the worst thing that can be done.

Don't resort to saline injections. During the acute stage a limitation of fluids is in order.

Don't use the depressant diaphoretics, such as ipecac, pilocarpine, or apomorphine. They tend to nauseate, an inclination otherwise too common, and, in the degree of attempts at vomiting, most undesirable.

Don't prescribe digitalis. I have repeatedly seen it bring on another attack. It is a dangerous drug in any individual with a liability to apoplexy, and for this, if for no other reason, of questionable utility in nephritics. Where anything of the sort must be used, strophanthus is in my experience far safer.

Don't resort to opiates. They are likewise contraindicated.

Don't try nitrites, as their use in any form is here out of place.

Don't permit any muscular exertion on the patient's part; and moving by others should be limited as much as possible.

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### Therapeutic Hints.

Dr. C. E. Boynton, of Los Banos, Cal., gives the following therapeutic hints:

1. Calcium sulphide, ½ grain every one to three hours, is an important factor in the treatment of endocarditis.

2. Bromoform and calcium sulphide rightly used abort and cure pertussis in a few days.

3. Direct the victim of sciatica to try to touch his nose with his great toe several times per day.

4. Give the hypochondriac ℥ij of sodium phosphate three or four times per day.

5. Hemorrhage from nearly any cause if capillary is best treated with calcium hypophosphite grs. x every two to four hours after all possible is done by mechanical means.

6. Echinacea will improve any course of treatment in any sort of fever.

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## RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

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### Tympanic Vertigo Due to Obstruction of the Eustachian Tube.

W. P. Brandeger (*Laryngoscope*, February, 1902) contributed a paper under this title at a recent meeting of the American Laryngological Society. He said that vertigo could be divided into four varieties, viz: (1) Vertigo incident to diseases

of the heart; (2) vertigo complicating diseases of the stomach and intestinal tract; (3) vertigo associated with diseases of the eye; and (4) vertigo dependent upon diseases of the ear. Vertigo in connection with ear disease is almost always associated with tinnitus. When there is only moderate deafness, vertigo is not usually complained of. The lower tone limit is nearly always raised. Vertigo due to aural disorder is either subjective or objective, and the vertigo varies from slight giddiness to an inability to stand up or walk. The vertigo is usually referred to the side on which the lesion exists. The first effort should be to strike at the root of the disorder by restoring the lumen of the Eustachian tube. The most rapid and effective method of accomplishing this, in the author's opinion, is by electrolysis. By the aid of the current from the negative pole the bougie can be readily passed, whereas with the ordinary bougie undue force will be required. The method causes a minimum amount of pain and produces the minimum amount of trauma, and allows of the utmost delicacy of manipulation. The smallest bougie, with a tip one millimeter in diameter, is preferred for the first treatment, and a current of from 25 to 40 volts, and from two to five milliamperes, should be used. Electrolysis, and not cauterization, is desired. The negative pole should be attached to the bougie, and the positive electrode held in the hand. Before passing the bougie the mouth of the Eustachian tube should be thoroughly anesthetized with cocaine. To be effective the tip of the bougie should pass within the tympanic cavity, and inflation should not be done for forty-eight hours.

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## OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

### Ocular Lesions Associated with Constitutional Diathesis.

H. Isaac Jones (*Journal of the American Medical Association,* March 29, 1902) calls attention to the importance in all ocular diseases of removing the cause. He insists that it is not only our province to gain knowledge wholly from a single organ, but the general condition of our patient must be studied. The treatment of the case should be directed to correcting any

cause for the local change. He quotes Sir Thomas Watson: "We find in the eye more satisfactory and plain illustrations of the general facts and doctrines of pathology than in any other single organ of the body; certain changes in the eye are known to accompany certain diseases of the brain and spinal cord, and also certain lesions of organs more remote, which are also the expression of general and constitutional disease."

He mentions lithemia, also the stomach and alimentary canal, the teeth, the ear and the nose, as causes of eye trouble.

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## DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Lecturer on Dermatology, Detroit College of Medicine.

### Recurrences of Tinea Versicolor.

In the *Journal of the American Medical Association* of March 15, 1902, Jacob Sobel, of New York City, says that the failure to eradicate tinea versicolor in its entirety and the subsequent recurrence of the disease in many instances are due to the overlooking, and consequent non-treatment, of a region which Dr. Allen has repeatedly shown to be one of the main causes of reinfection, namely, the suprapubic region. In men, as well as in women, small faint patches of the disease are hidden in this region and are never suspected. In these cases the application of Lugol's solution renders the diagnosis doubly sure; for pale and hidden lesions at once become visible and lead the way to a proper eradication of the disease. As long as any vestige of the disease remains, so long will recurrences take place. Lesions in the suprapubic region appear at times to itch more than in other parts; this gives rise to scratching, and the subsequent conveyance to other regions, and to autoinoculation. He has seen instances in which a history of numerous outbreaks was given, and where thorough treatment of the aforesaid region brought the disease to a standstill.

Recurrences are due to a lack of proper treatment. It is the custom of most physicians to look very lightly upon the treatment of this condition, to give merely exfoliating medicaments of green soap, hyposulphite of soda, sulphur, etc., and to rely upon these, with an occasional bath, to control and to cure the affection. This, however, is insufficient. In studying the development of the disease it will be seen that the incipient patches

have their origin about the hair follicles, and in some cases appear to extend into them. The origin of the patches being "perifollicular, or perhaps intrafollicular," penetrating agents, such as B-naphthol, resorcin, chrysarobin, etc., must be combined with desquamating ones in order to obtain the best and most permanent results.

A third and most important cause of recurrences is the improper care of the underwear during and after the course of the disease. So abundant are the spores in any given scraping that it is safe to assume that many of them cling to the underclothing, which if not changed frequently, and not properly and thoroughly boiled upon removal, will again inoculate the skin. If possible the underclothing should be changed daily during the course of treatment, and re-used only after appropriate disinfection.

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## GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

### Management of Fibromyomata Complicated by Pregnancy

M. F. Porter (*Annals of Gynecology and Pediatry,* February, 1902) says that pregnancy is a frequent and serious complication of uterine fibromyomata. If, because of their size or location, they are likely to interfere with gestation, or jeopardize the patient's life, they should be removed. Each case is a law unto itself, and should be treated accordingly.

The tumor, and not the pregnancy, is the disease, and therefore any procedure which results in leaving the tumor and removing the pregnancy, is unjustifiable.

This, of course, is not meant to apply to those cases in which the fibroids do not interfere in any way, either with gestation or labor.

Pregnancy does not materially add to the risk of operations for uterine fibroid, so far as the mother is concerned.

The life of the mother, the life of the child, and the question of future offspring are, in the order mentioned, the most important matters to be taken into consideration in coming to a conclusion as to the treatment of a case of uterine fibroids complicated with pregnancy.

# THE MEDICAL AGE

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## ORIGINAL CONTRIBUTIONS.

### INTERESTING FEATURES IN LOCOMOTOR ATAXIA.

BY A. C. GRIGGS, M.D., PHILADELPHIA.

The so-called spastic gait is a walk in which the legs are rigid and in which the foot is scraped along upon the ground. This gait with the rigidity of the legs occurs in diseases of the lateral columns of the spinal cord, in the so-called lateral sclerosis. The gait that is due to palsy of the nerves, alcoholic multiple neuritis, is very different. The toes can be raised and the knees bend outward, giving it the name of the stoppage gait.

The ataxic man presents other peculiarities. He stops or staggers as he walks; he walks irregularly. When he stands, he sways; he keeps his knees apart so as to get a wide base for support. When he walks with his eyes shut, the irregularity becomes more pronounced. In cases of doubt, make the patient walk with his eyes closed; if ataxia be present, it will be exaggerated. We can test this incoördination in other ways. Ordinarily we stand as well with our eyes closed as with them open. Our patient putting his feet close together is afraid to stand in this way; he is somewhat guarded, for fear he may fall. If he has his eyes closed he sways more than he should; and on closing his eyes the sway may be so great that if I do not seize him he will fall. This test with the eyes closed is known as the "Romberg test." The Romberg symptom is a symptom of extensive swaying upon the closing of the eyes. Incoördination is present in the legs, which is known by the movements in walking. Another test, if we were doubtful in regard to the ataxia, is to place this man on his back in bed, and direct his various movements from the foot. In testing the arms we find a certain amount of resistance. We find a marked difference between tapping his nose with his index-finger when his eyes are closed and when they are open; also in touching the lobe of his ear with his finger; also on closing his eyes

and bringing the index-fingers of each hand together, with the object of making their tips touch.

In all these tests, when his eyes are closed, the ataxic does not hit the mark. The patient, however, is easily educated, and this is an important test in regard to treatment. We find also in him a slight remissness in coördination of the arm, but this is usually found in the average stage of the disease. The movements in his arms are pretty well preserved. As the case progresses, we frequently have gross incoördination of the arms and trunk; especially is this the case in the later stages of the disease. We find in many cases we have associated with this marked incoördination certain other symptoms, such as a wrist- and knee-jerk. This is the second symptom of importance to be associated with cases of this character. You are not to hastily conclude that the knee-jerk is necessarily absent, for another test to determine whether the knee-jerk is entirely absent may show its existence. It is a principle of physiology that when one group of muscles have become predominant in action the tone of the other muscles is raised; the action of the muscles of the face and of the body becomes increased. There is an overflow of nervous energy, as it were, all over the nerve pathway. I instruct my patient to make some effort with the muscles of the upper extremities. When I count 1, 2, 3, and when I say 3, he clinches the hands as tightly as possible. Now I tap the knee and find that the knee-jerk is absent. Every now and then we find, especially in the early stages of the affection, that the knee-jerk is present upon this test. This is known as "the test by reënforcement."

In addition to this test for the loss of coördination and for the loss of knee-jerk, there is another symptom that is important—that is, I find that when I throw this man's head back a little, in such a position as to throw the light upon it, the pupils do not contract. It is a matter of common knowledge that when the eyes are closed to light there is no response whatever to the added or increased amount of light, when the pupils are exposed at once to light. In this test we have what is known as the Argyll-Robertson pupil, which was first described by the Scottish physician of that name. It is associated in these cases with incoördination and loss of knee-jerk. If we test a pupil for this kind of incoördination and for the combination—for instance, if I ask this man to look at a distance—I find that his pupil responds to accommodation from a distance.

This man whom we will study says he had rheumatism in the legs about three years ago, and the pains were like those of the prodding of a knife; the knee-joint was swollen, at first in one leg and then in the other; and the pains were more prominent in

the back. Patients frequently call these pains "rheumatic pains." When a case like this is found it is well to inquire into the character of the pains. Ordinarily in rheumatism the pain is increased by motion and pressure, is lancinating; these pains are instantaneous, which come and go. When the pain is present it is quite severe at first. He has no pains at all now. The pains lasted about two or three months, and as the disease progressed they became less and less. The pain in the back was a griping pain like that of acute myelitis, graphically described as "pins and needles." About two and one-half years ago he had trouble in passing urine; he did not pass it as freely and as rapidly as before, and now he is apt to wet his clothing; he has developed sphincter symptoms in addition to the other symptoms, as knee-jerk, etc. The bowels are responsive to treatment; but later on in the disease he is apt to have trouble with the rectal sphincters; he will involuntarily pass feces.

Now in these cases we have still another symptom of importance. There is an interval between the time when I pricked his leg and the time of the response, certainly amounting to a number of seconds. This patient has retardation of the sensory nerves, or sensory retardation. The same effect is seen when I prick his hands. In some cases tactual sense is preserved in the legs, but not in the hands. I prick the legs, and I do not hurt the patient, there being a certain degree of absence of pain, or analgesia. This patient has had a history of nausea or vomiting more or less pronounced. In many of these cases we have ataxic pains referred to the viscera, as the heart, stomach, lungs, liver, or kidneys, or perhaps the throat and chest, and these pains are severe in character. They are known as "crises." Now this case presents a typical history.

There is no family history in this case. He presents a history of a lesion of some eight years ago—a history of syphilitic infection. In these cases you will almost always obtain a history of exposure to this infection. There is a small residuum of cases in which there is no exposure, in which syphilis may be innocently acquired. There is a close relation between locomotor ataxia and syphilis. Now what is the nature of the lesion present in this case? If the man has syphilis, is the process a syphilitic one? I wish it were, because then in all probability we could get this patient well, and get him well rapidly. We have general changes in the nerve tissue. Just as we find in lateral sclerosis, so we find here granular degeneration of the posterior tracts, of the posterolateral columns. This is the gross lesion we find in connection with the case. This is almost always most pronounced in the abdominal region, or in the lumbodorsal region of the

cord—sclerosis in the lateral columns, in close connection with the posterior horns of the cord.

In the dorsolumbar region of the spinal cord you find a diseased area. Further on you find the area of sclerosis is more marked, thus verifying exactly what we found in the symptoms. In the cervical portion of the cord these masses of white fibers are not diseased, and when this is the case we will also find absence of ataxia in the arms. Now here we have a death fiber by fiber. It is not essentially a syphilitic process. We have here infiltration of vessels and membranes—and we have spastic paraplegia and other symptoms of disease of the cord. These fibers are sclerosed. The development of these changes is gradual, and instead of following a transverse direction, pass up fiber by fiber longitudinally. We find, as these changes go forward and the disease progresses, the ataxia becomes more and more pronounced. Thus a lesion producing locomotor ataxia is the lesion of the posterolateral columns. This is a disease which is parallel in some cases with sclerotic changes.

Do we have in locomotor ataxia a disease which does not confine itself to the spinal cord? If so, we would have some difficulty in explaining it. This certainly would be the case in this man. We have another symptom in addition to the absence of light reflex. He sees double. The eyes become parallel when he turns to the light; and with double vision there is a ptosis. In another case I have a patient who has, however, suffered from some lesion higher up than ordinary; for he has ptosis on each side, more marked on the one side than on the other. This points to some injury higher up—a cranial lesion. This man also complains that he cannot see distinctly; in fact, as he says, he sees "double." In this case we suspect that there has been a waste in some portion of the nerve tissue within the brain. In these cases, as it affects the eye, we have no doubt that the oculomotor nerve is affected. On asking him to protrude his tongue, I find that he cannot do this correctly without trouble. He complains also of numbness in the face, which is a common symptom of this disease. The existence of ocular pain, however, is rare.

When we come to the treatment of this important disease, we are at once confronted with the question of specific infection. Are these cases of such an origin that the use of iodide of potassium and the mercurials will benefit them? I have already stated that it is not proper to consider these cases as syphilitic; but so small a percentage are undoubtedly benefited by this treatment that the question arises whether we should not administer it in the hope that it will do good. This is a sclerotic process, and it may do a considerable amount of good in this case to give the

iodide of potassium. Mercury also will do no harm, and may do a great deal of good; but it will be well to be careful and not promise too much to your patient. In cases of this sort see to it well before you make a favorable prognosis.

The treatment which is most important is the consideration of the general health of the patient. We have here a destructive degenerative process which embarrasses the nutrition of the nerve fibers, eventually causing their entire destruction. It may be due to some unknown toxin. Therefore the use of rest, judiciously controlled, the introduction of a nourishing, stimulating diet, with the use of systematic bathing and massage. In this method of treatment we find that certain processes of the disease will slow down, and may even stop for a time.

There is one curious feature which, while of assistance to the patient, spoils him for class demonstration, and that is to find that he is automatically making the proper movements. This is good for the patient, but it ruins him so far as clinical demonstration goes. This brings up the so-called French method of treatment, which consists in the use of exercise by which the patient replaces spinal coördination by cerebral, so that in short his movements are regulated, not by the centers in the spine, but by the higher centers in the brain. This is peculiarly applicable to the cases in the early stages of the disease which are not advancing. For example, we may be able to take a man with an ataxic gait, and who walks with trouble, and teach him in such a way that he can walk straight, avoid obstacles well, and in every way take care of himself on the street. It is often marvelous what results we can obtain in these cases, although we must acknowledge that this new gait movement is not a normal one. It is a peculiar gait resembling more than anything else the so-called "army step," which is taught soldiers.

We must also remember that tonics are of use in these cases, and especially must we look after the digestion of the patient. Many of these cases suffer from catarrhal trouble of the stomach, so that the administration of some such drug as the nitrate of silver, which is a tonic to the nervous system as well as the gastro-intestinal tract, is indicated; and in giving this drug, it is well to remember that it should be administered one-half hour before meals for from three to six weeks. In many of these cases we find, too, that the bowels are apt to be constipated, and in such patients the use of laxatives is also of great benefit. By this means and also by keeping the skin active, we find that our patients do well, comparatively speaking.

## SOME EXPERIENCES WITH THE SALTS OF GOLD.

BY JOHN E. SYLVESTER, M.D., WELLSTON, O.

The salts of gold were introduced into medicine by the French nearly a hundred years ago. They have been especially used in obstinate syphilis, chronic skin diseases, nervous diseases of the melancholic and sclerotic types, and various other rebellious disorders. Nearly all the earlier references are to French authors. Trousseau writes favorably of gold. Not much notice of it is given in the works of English and American writers. The therapeutic pessimist, Stillé, twenty years ago said: "It is unnecessary to enter into any detail respecting a medicine which has deservedly fallen into disuse." But Bartholow, with that pleasant positiveness which is such a comfort to the physician in times of doubt and danger, gave a very favorable account of gold, and pointed out that it was serviceable in sclerosis wherever developed. On the other hand, an anonymous item in the *Medical Record* of September 29, 1888, says: "There is probably not a sound clinical observation showing that gold possesses any special therapeutic efficacy in any disease."

I do not intend to rehash all that has been written *pro* and *con* on the subject for the last hundred years. It is in the literature and open for perusal. Suffice it to say that so far as I have been able to learn by personal observation, gold as a therapeutic agent has been practically almost entirely unknown to the medical profession until within the last ten or fifteen years. During that time it has been thoroughly advertised as the basis of certain proprietary preparations, and the impression has been given that no other preparations are of value and that no other manufacturers are able to make solutions of gold that are deserving of confidence. There is danger that many may be led to believe that these proprietary preparations are the only ones that have any merit or have been used. Nearly all that has been written or spoken on the subject in late years has had reference to the secret preparations, and unfortunately much of it has been so tainted with commercialism as to lead us to doubt the reliability of all of it. Hence I have felt impelled to record some of my experiences without exploiting somebody's goods.

For a number of years I had pills prepared in three-thousand lots, each pill containing one-sixteenth grain chloride of gold and sodium, and one-fourth grain extract of aconite. The aconite was added by Bartholow or some previous writer to prevent the occurrence of auric fever. Finally, I found in the market reliable tablet triturates of chloride of gold and sodium, and later I have used in some cases solutions of bromide of gold and arsenic.

*Case 1.*—In April, 1879, my attention was called to a fifteen-year-old girl who had been sick all her life from hereditary syphilis. She had been under the care of competent physicians and had spent several months in a hospital in Columbus. She was a short, undersized girl, with thick, repulsive features. She was almost blind from corneal opacity, both tympanic membranes were gone, vomer eaten away; neck, groins, and knees showing eleven large scars from old ulcers. She had never menstruated. Her mind was becoming dull, and latterly a persistent cough had set in. As a matter of experiment as well as charity I took the case. She was given dilute nitric acid with bark for a few weeks to tone up her appetite, and to give me time to decide what to do. With some difficulty I procured chloride of gold and sodium and made it into pills, each containing one-twentieth grain with one-fourth grain extract of aconite. She took one three times a day. Promptly one after another the eleven large scars opened to their fullest extent into running sores. To them I applied iodoform ointment and continued the internal treatment. After some weeks the sores began to heal and her general condition to improve. Her mind became brighter and her cough ceased. In six months she had grown four inches taller, and menstruation was well established. She developed rapidly into a large, strong, healthy woman, although of course badly scarred. She is now the mother of a healthy bright boy ten or twelve years old.

*Case 2.*—About sixteen years ago I was consulted by a refined, well developed young woman nineteen years old. Menstruation had become gradually more and more scanty, till it then lasted but part of a day, and was preceded and accompanied by several days of intense pain. I gave her the gold and aconite pills three times a day for three or four months. Menstruation became more and more abundant each month until normal, and the pain decreased in an inverse ratio. A relapse two or three years afterward was promptly relieved by the same treatment.

*Case 3.*—In 1892 I was called in consultation to see a young man twenty years old who had been a hard drinker for several years, and for two months had had ascites. I found the abdomen enormously distended, the liver somewhat enlarged and tender. Cathartics and diuretics had failed to control the accumulation, and the distress and weakness of the patient were becoming extreme. For certain reasons I had been somewhat interested in cirrhosis of the liver, and had never been able to get much comfort from reading about the prognosis of it. I therefore told the physician that I knew nothing that would cure the patient, but recommended a trial of gold and sodium. The other medicines were stopped, and the pills of gold and aconite given three times

a day. To the surprise of all of us the accumulation speedily began to disappear, and in three weeks was all gone. Since then he has had two or three attacks of hemorrhage of the stomach following indulgence in whiskey, but is generally in fair health.

*Case 4.*—A druggist, aged fifty-seven, who had been a steady but as he claimed moderate drinker, sent for me in consultation. I found him with an enlarged but firm liver, skin decidedly jaundiced, and abdomen largely distended with fluid. He had been sick for a number of weeks, and was getting worse. We gave him in addition to his other medicine tablet triturates of gold and sodium, and he steadily improved. The ascites entirely disappeared, but he lost thirty or forty pounds of flesh and remained at 150 or 160 pounds. Two or three years after he again became ascitic. A mutual friend, a druggist, learned of me by inquiry what he had taken before, and sent him a supply of tablets. I afterward learned that these were taken without the knowledge of his physician, who congratulated himself upon the prompt improvement that followed.

*Case 5.*—Edna C——, aged eleven years, had inflammatory rheumatism in December, 1899. Endocarditis followed, resulting in mitral insufficiency, rapid action of the heart, deficient renal secretion, and albuminuria. In June, 1900, she was anasarcous and became steadily worse. When I saw her on September 25 she had a rapid and hypertrophied heart, with a very loud mitral systolic murmur. Dyspnea was so bad that she could not lie down. The urine was quite scanty and highly albuminous. Heart tonics and diuretics were apparently without effect, and it was thought that her death would probably occur within a few days. She had used digitalis, nux vomica, potassium iodide, lithia, calomel, and the usual remedies for such cases. The attending physician, Dr. W. R. Moore, had on hand a solution made in Columbus, each five drops of which contained 1/64 grain bromide of gold and the same of bromide of arsenic, and this three times a day was the amount we gave her. She has continued it with intermissions until the present time. We continued her previous treatment, adding fluid extract apocynum cannabinum. In forty-eight hours the dropsy was almost gone, and the kidneys acting quite well. The change in the swelling was so prompt and apparently excessive as to alarm her parents. The treatment has been continued with some minor variations for seven months. She now has no albuminuria, eats and sleeps well, and is free from anasarca. The heart has undergone compensatory hypertrophy, and the loud systolic murmur of course still persists. We hope that the growth of the next few years may in a measure repair the damaged heart, and restore her to comparative health.

I have tried the salts of gold in cases of locomotor ataxia, but have not observed the good effects reported by others. I have not had occasion to use them in diabetes mellitus, but I notice very flattering accounts of the results obtained by the use of bromide of gold and arsenic in such cases.

The above are a few of the most striking of my experiences related from memory and without any attempt to write a statistical essay. I have never met with auric fever, and only once with auric salivation. In that case a woman of sixty years had such a profuse flow of saliva whenever she used the chloride that it had to be discontinued. I have not tried to write a complete treatise on this subject, but only so much as may lead the profession to study a neglected remedy which will serve them in cases that are generally considered almost hopeless.

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## RETAINED PLACENTA: TUBAL ABORTION (ECTOPIC PREGNANCY).*

BY A. M. CARTLEDGE, M.D., LOUISVILLE, KY.

There is nothing of especial interest in the two specimens which I shall exhibit. The first case has a rather unusual history, and the second is only of interest from a diagnostic standpoint.

*Case 1.*—I have never before encountered in my practice anything like this case, and I wish to devote a few minutes to the consideration of the history in order that we may be better able to understand it.

Mrs. J——, aged forty-one years; mother of ten children, nine living, the youngest four years old. She had a miscarriage in November, 1900, having missed two menstrual periods at that time, but had always been regular previously. Since November menstruation appeared every three weeks until January, 1901, when her menses ceased altogether until September 15, since which time there has been a continuous hemorrhage from the uterus, with the exception of four days at one time, after which it recurred with increased severity. At times she states that she passed clots about the size of hen's eggs, and she had been in bed three weeks before coming to this city.

In regard to the miscarriage in November, it is reported that her physician called it a "false conception." This is about all the history I was able to obtain, she being an honest but rather ignorant country woman. She said that she had missed two periods at the time the miscarriage occurred in November. She claimed that there had not been a vaginal discharge, except

*Reported to the Louisville Medico-Chirurgical Society.

occasionally a slight leucorrhea, or anything suggestive of menstruation, from January until September 15, 1901, since which time there has been continuous hemorrhage, excepting during the four days mentioned, which amounted to considerable in quantity.

I saw this woman for the first time day before yesterday. She was pale and anemic from loss of blood—seemingly a cachexia, yellow, with a fetid discharge from the vagina, and with the history which has just been outlined. The vaginal discharge had a very disagreeable odor, much like that which comes from a cancerous uterus, and I detected a tumor unquestionably connected with the uterus about the size of a cocoanut. By vaginal examination it was found that the os, which had been badly torn in one of her labors, was everted and enlarged, but it was hard and not suggestive of pregnancy, nor was it hard enough to suggest a malignant growth connected with the cervix.

With this history before us, it was only possible to surmise what the tumor was. From the size and shape of the tumor, which was smooth and round, I had no hesitancy in saying that it was either a case of malignant growth of the body of the uterus, probably sarcomatous in its nature, or in some inexplicable way, and contrary to the history of the case, that the woman had been pregnant this summer and had aborted, although the family doctor who attended her should certainly have been aware of such a condition had it occurred.

On the whole I believed we had to deal with a cancer of the body of the uterus, and had the woman prepared for a vaginal hysterectomy, intending if necessary to bisect the uterus. On October 31, under spinal anesthesia, as I was afraid to administer chloroform owing to the woman's bad physical condition, I hurriedly dilated the lacerated cervix, passed my finger into the uterine cavity, and quickly removed the specimen before you, which it will be seen is the greater portion of an old placenta.

This is the first case I have ever encountered where the afterbirth remained in the uterus for a year without causing more serious symptoms than were manifest here, and for that reason the case is reported. It must be the remains of the placenta from the pregnancy which occurred in November, 1900. And another strange part of the history is that as far as we can ascertain she had been pregnant only two months when miscarriage occurred, but the size of the placenta indicates that pregnancy had existed for a much longer period. There was no difficulty about removing the afterbirth, and the uterus afterward displayed quite a marked contractility.

After removing this placenta the uterus was clean, and I cut

away the scar tissue from the lacerated cervix, put in a few stitches, and the woman was put to bed. There is no reason why she should not make a good recovery.

*Case 2.*—The second specimen is simply one which illustrates one phase of tubal abortion. The patient is a lady thirty-one years of age, who has never borne a child, and has been fairly regular in her menstrual periods, never varying more than a week or two. A week before I saw her she began to menstruate, being then two weeks over her regular time. The menstrual fluid was very dark in color, and some pain was complained of in the left side—she said it was drawing or cramping in character It has been my experience that over half the women seen with ectopic pregnancy will describe the pain as drawing or cramping in its nature.

I made an examination and diagnosed probable rupture of a tubal pregnancy, and suggested operative intervention at once. She did not believe it, and would not then consent to operation. She was kept in bed for a week with a trained nurse to watch developments, and to-day I removed this specimen, which you will see is an ectopic pregnancy occurring in the Fallopian tube, and the sac containing the impregnated ovum has been extruded from the tube. I left the sac unopened, so that the specimen could be exhibited complete. There was probably a pint of blood in the peritoneal cavity.

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The United States Civil Service Commission announces that an examination for the position of medical clerk and translator in the Bureau of Animal Industry, Department of Agriculture, will be held April 22, 1902. The examination will consist of the subjects mentioned below, which will be weighted as follows: (1) Translation of medical German, 25; (2) translation of medical French, 25; (3) translation of medical Italian, 10; (4) translation of medical Spanish, 10; (5) technical bibliographic work in medicine and zoölogy, 10; (6) medical and zoölogical terminology and nomenclature, 10; (7) experience, 10. The age limit will be twenty years or over, and the salary $720 per year. The examination is open to all citizens of the United States who comply with the requirements, and the candidates will be rated according to the qualifications shown in their papers, and those eligible will be certified in strict accordance with the civil service regulations. Persons desiring to compete should apply to the United States Civil Service Commission, Washington, D. C.

# THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

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## EDITORIAL ARTICLES.

### RECIPROCITY IN MEDICAL REGISTRATION.

The desirability is obvious of achieving some method whereby medical qualifications granted in one State can be made operative in other States. It is to this question that the able secretary of the Michigan State Board of Registration is now directing his attention by endeavoring to secure united action on the part of the Confederation of State Boards.

The difficulties which beset the problem are many, and are of a nature which can only be solved by time, but it is encouraging to observe that an earnest effort is being made to remedy a matter which has long been something more than an inconvenience. A medical qualification may mean anything or nothing, and if by a consensus of action any definite value can be imparted to the physician's qualification, something tangible will have been achieved.

The difference which at present exists in the medical laws of the different States, and the consequent difference in educational status of those holding medical registration, will probably make it impossible to do more at the approaching meeting of delegates of the Confederation of State Boards than recommend a policy upon which the reciprocal exchange of certificates could be accomplished. The details of such a scheme must be left to be arranged between the States reciprocating. There would seem to be little reason why some arrangement should not be mutually possible at once between Ohio, Michigan, and Illinois. Once have such an understanding started, it can be left to the impulse of its own vitality to grow. It might be urged that too much thought should not be given to those who are already licensed to practice in the different States. If a reciprocal exchange of certificates cannot be made to apply to these, let them be left out. A reciprocal arrangement could have no other ulterior

effect than that of elevating the general standard of requirement. The policy is one which may certainly be wisely pursued, leaving it to the future to shape its precise form.

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## EDITORIAL NOTES.

### Action of Tobacco Smoke on Microbes of the Mouth.

Tobacco smoke has long been esteemed by many to have a protective action in certain epidemics. Dunon, a French observer, has recently endeavored to estimate the true value of the idea by studying the action of smoke on the development and virulence of numerous organisms. He finds that whereas tobacco smoke has no influence on the development of the bacilli of tetanus, of typhoid fever, of streptococcus, or of tetragenus, it does modify considerably the development of the organisms of pneumonia, diphtheria, tuberculosis, grippe, and of the staphylococcus. It is therefore possible that tobacco smoking may have a valuable prophylactic function, and may be wisely employed by those attending certain diseases, in which the development of the infection occurs in the mouth.

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### Books as Carriers of Disease.

It seems remarkable that disease is not oftener disseminated by books which are circulated through the medium of our public libraries, as experiments have shown that the various bacilli live for a greater or lesser length of time in them. The germ of diphtheria will live for twenty-eight days, while that of tuberculosis remains virulent for over one hundred days. The attention of librarians should be called to these facts, and all books before being taken from public libraries should be thoroughly disinfected. This could be accomplished very easily and without damage to the books by the formaldehyde process.

# ITEMS AND NOTES.

Asiatic cholera has appeared in Manila.

The smallpox epidemic in New York is on the decrease.

France has at last adopted compulsory vaccination and revaccination.

Dr. Thomas Dunn English, author of the world-famous song "Ben Bolt," is dead in New Jersey.

It is announced that two foreign universities for women will be open next year—one at Tokio and one at Moscow.

The French courts have forbidden the pharmacists to diagnose ailments or prescribe for any of their customers.

The memorial bust to Sir William McCormack will be placed in the central hall of St. Thomas Hospital, London.

The Secretary of War has decided that contract dental surgeons have no official relation to the surgeon of a post.

The Tri-State Medical Society of Iowa, Illinois, and Missouri held its tenth annual meeting at Chicago April 3.

The bill for appropriating $10,000 for experimenting on the destruction of mosquitoes in New Jersey has been defeated.

The New York State Senate has passed a law forbidding the use of formaldehyde or salicylic acid as milk preservatives.

The Emperor of Austria has given $2000 from his private purse for the foundation of an institute for the cure of lupus.

Dr. John C. Campbell, a nephew of Ephraim McDowell, who lives at Denmark, N. C., although ninety years of age, is still in active practice.

Professor Virchow is still progressing toward recovery, but owing to his age and the severity of the injury sustained a slight lameness is feared.

Smallpox in the United States as officially reported from December 28, 1901, to March 21, 1902, reaches a total of 25,104 cases, with 702 deaths.

A number of cases of yellow fever are reported from Rio de Janeiro. The sanitary conditions of this city will be improved by a European syndicate.

The bills for attendance upon President McKinley have been formally presented to Congress. The total sum is said to be in the neighborhood of $50,000.

The University of Chicago is contemplating the erection of a large laboratory for anatomical purposes, the cost of which will be between $500,000 and $1,000,000.

The New York legislature has appropriated $15,000 to be used for investigation upon the best methods of treating cancer. The money is to be spent at the Gratwick Laboratory, Buffalo.

The seventh annual meeting of the Western Ophthalmological and Oto-Laryngological Association was held April 10 to 12 in Chicago under the presidency of C. R. Holmes, of Cincinnati.

The medical laws of Australia grant licenses only to physicians who have taken a five-year course in medicine before receiving their degree. This debars all American graduates from that country.

Highly gratifying results from pure air of an elevated region, out-of-door life, careful selection of the most nutritious diet, and absolute rest in reduced patients, are reported by Major Appel, chief surgeon at the Government Soldiers' Sanatorium, at Fort Bayard, New Mexico. He claims to have demonstrated that tuberculosis in every stage is curable.—*Exchange.*

In a report to the State Department made by United States Minister Thomas at Stockholm, it is learned that the American legation there is constantly in receipt of letters from persons asking to have their names presented for a Nobel prize, and attention is called to the fact that the American minister is not permitted in any way whatsoever to present names for any of the Nobel prizes.

The Alumni Association of the Detroit College of Medicine have prepared a fine programme for the annual clinical week which commences April 30 and lasts until May 8. Clinics will be held at Harper and St. Mary's Hospitals, and entertainments will be given by Parke, Davis & Company and Frederick Stearns & Company. The annual meeting of the Alumni for the election of officers will be held on the last day of the meeting.

Of the 4801 physicians and surgeons listed in the census returns for London there are, says an exchange, no less than 169 males and six females who are foreigners. Nearly all

countries are represented in this foreign element, America leading the list with 63 male physicians. There are in the city 16,107 persons who are entered as nurses or invalid attendants: of these 15,844 are women, three of whom are said to be blind. Besides these there are also 266 midwives. There are 62 female dentists in London.

THERE is a remarkable coincidence between the spread of cancer and the largely increasing consumption of effervescent wines and waters. Prior to the sixties, champagne as a drink was used but occasionally, nor were aerated waters consumed in anything like the quantity or frequency that they are now. The upper classes by constantly imbibing effervescent beverages, solutions of carbonic acid of greater or less strength, so prepare their mucous tissues as to make them a favoring host to the cancerous fungus, if fungus it be.—*London Medical Times.*

OUT of 1788 persons treated during 1900 in the Pasteur Institute, Alexandroff Hospital, Moscow, 17 died (0.98 per cent). Bites in the face and head were followed by a mortality of 2.74 per cent; of the upper extremity, 0.96 per cent; of the lower, no mortality. The greatest mortality followed bites of wolves (4.5 per cent), then dogs (0.99 per cent), and finally cats (0.21 per cent). The incubation period in one case was one year and ten days, and in another 410 days, the minimum thirty-two days. Twelve patients died within two weeks of treatment.—*Medicinskoie Obosrenie.*

As a result of the recent visit of Surgeon-General of the Navy Presley M. Rixey to the Naval Academy, it is announced (*Philadelphia Medical Journal*) that the old naval hospital on the government farm is to be remodeled and made into a hospital for mariners and sailors. The building was erected under Admiral Porter's administration as superintendent of the Naval Academy. The entire cost, including land, etc., was about $200,000. The building has long been in disuse. The improvements will cost $75,000. The hospital occupies a high situation with a beautiful view of the bay, city, and surrounding country.

THE House committee on coinage, weights and measures have favorably reported the bill to adopt the weights and measures of the metric system as the standard of the United States. The bill provides: "That after January 1, 1904, all the departments of the Government of the United States in the transaction of all business requiring the use of weight and measurement, except in completing the survey of public lands, shall use the

weights and measures of the metric system, and after the first of January, 1907, the weights and measures of the metric system shall be the legal standard weights and measures of and in the United States."

Governor Taft states (*Philadelphia Medical Journal*) that there is very little malaria in Manila, although the city is quite low and surrounded by marshes. In some of the high valleys there is virulent malaria. Heavy rains are supposed to be necessary to the health of the islanders. From the beginning of the dry season diseases grow in intensity and extent. When the rain comes, it seems to flush the land and carry off the dangerous germs. It is unsafe for Americans to expose themselves to the midday sun. Statistics will probably show that the health of troops when not exposed to rough weather and continuous marches is as good as in the Southern States. The climate, however, is not a comfortable one, and after two or three years wears on one's nerves. Tuberculosis kills more people in the islands than either dysentery or malaria.

With a view to aid in preventing the spread of tuberculosis among seamen of the merchant marine, Surgeon-General Wyman has issued (*Philadelphia Medical Journal*) a circular letter to commissioned officers and acting assistant surgeons of the Marine Hospital Service directing that whenever a seaman suffering from pulmonary tuberculosis applies for treatment, notice shall be sent to the master of the vessel on which the seaman sailed preceding his application for treatment, and if this vessel is in port, the apartment formerly occupied by the seaman shall be disinfected under the direction of the medical officer, with the consent of the owner. Thorough mechanical cleansing of floors, walls, and bunks with hot water and concentrated lye should be done; also the wetting of floors, walls, and bunks with either of the following solutions: Carbolic acid 1 to 100; or corrosive sublimate 1 part, hydrochloric acid 2 parts, water 1000 parts. It is strongly recommended that forecastles or other apartments used should be painted or whitewashed after disinfection, if possible. A report of every vessel whose forecastle is disinfected is to be rendered to the Marine Hospital Bureau.

The following passage occurs in Brydone's "Tour through Sicily and Malta," written toward the end of the eighteenth century: "There are here a number of particular conversations every night, and what will a good deal surprise you, they are always held in the apartments of the lying-in ladies, for in this

happy climate child-bearing is divested of all its terrors, and is only considered as a party of pleasure. This circumstance we were ignorant of until t'other morning. The Duke of Verdua, who does us the honour of the place, with great attention and politeness, came to tell us that we had a visit to make that was indispensable. 'The Princess Paterno,' said he, 'was brought to bed last night, and it is absolutely incumbent on you to pay your respects to her this evening.' At first I thought he was in joke, but he assured me he was serious, and that it would be looked upon as a great unpoliteness to neglect it. Accordingly, we went about sunset, and found the Princess sitting up in her bed, in an element undress, with a number of her friends around her. She talked as usual and seemed perfectly well. This conversation is repeated every night during her convalescence, which generally lasts for about eleven or twelve days. The custom is universal; and as the ladies here are very prolific, there are, for the most part, three or four of these assemblies going on in the city at the same time."

The Committee on Pathologic Exhibit for the American Medical Association is anxious to secure materials for the coming session at Saratoga, June 10 to 13 inclusive. This exhibit was accorded much praise and comment during the sessions at Atlantic City and St. Paul respectively, where were collected valuable exhibits from all parts of the country. The materials included not only pathologic specimens, but the allied fields—bacteriology, hematology, physiology, and biology—were well represented. It would also be desirable to secure exhibits of new apparatus, charts, etc., used by teachers of pathology and physiology in medical colleges. This exhibit has already become a permanent feature of the annual sessions of the American Medical Association, and the committee is desirous of securing its list of exhibits as early as possible, and to this end asks those having desirable materials to communicate with any member of the committee. To contribute to the value of the work, it is suggested that as far as possible each contributor select materials illustrative of one classification, and by such specialization enhance the usefulness of the display. Those lending their materials may feel assured that good care will be given their exhibits while in the hands of the committee, and due credit will be given in the published reports. The committee consists of the following gentlemen: F. M. Jeffries, 214 E. 34th Street, New York City; W. A. Evans, 103 State Street, Suite 1403, Chicago, Ill.; Roger G. Perkins, Western Reserve Medical School, Cleveland, O.

# NEW PUBLICATIONS.

## GENITO-URINARY DISEASES AND SYPHILIS.

The publication of a new manual of genito-urinary diseases is an event which has more than passing interest for the many engaged in this field of practice. The radical changes which have come over the treatment of acute and chronic gonorrhea during the last ten years have made a profound difference in current conceptions of most genito-urinary subjects. Renal surgery has advanced through the development of methods for separate catheterization of the ureters, and operations on the bladder and prostate have been perfected and developed to a degree hitherto unattained. The relation of chronic seminal vesiculitis to neurasthenia is also much better understood. These notable advances are all reflected in the pages of Dr. Morton's book. The work is admirably compiled, carefully illustrated, and the explanatory text is lucidly written. The author is to be congratulated upon so excellent a production.

Genito-urinary Diseases and Syphilis. By Henry H. Morton, M.D. Philadelphia, Pa.: F. A. Davis Co.

## THE INTERNATIONAL MEDICAL ANNUAL.

This Annual, which has now achieved its twentieth year, may be said to have added long life to its other manifest qualities. During its existence it has trebled its matter, and is one of the best compendiums extant, giving just such information as the general practitioner who wishes to keep abreast of the times desires to possess. The editing has been carefully done, and its condensations are marked by fairness, prominence being invariably given to opposite views.

The International Medical Annual. A Year-book of Treatment and Practitioner's Index. Chicago, Ill.: E. B. Treat & Co.

# THE PROGRESS OF MEDICAL SCIENCE.

## SURGERY.

### A Contribution to the Study of Spinal Fracture.

G. L. Walton (*Boston Medical and Surgical Journal*, March 6, 1902) discusses the question of operative interference in cases of spinal fracture, and arrives at the following conclusions: (1) There are no symptoms which establish (otherwise than through their persistence) irremediable crush of the cord. (2) While total relaxed paralysis, anesthesia of abrupt demarcation, total loss of reflexes, retention, priapism, and tympanites, if persistent, point to complete and incurable transverse lesion, the onset of such symptoms does not preclude a certain degree at least of restoration of function. (3) The prognosis without operation is grave. (4) While the results of operation are not brilliant, they are sufficiently encouraging to warrant us in making the practice more general. (5) In most cases it will be wise to operate within a few days of the injury; but a delay of some hours is advisable, partly on account of shock and partly to eliminate the diagnosis of simple distortion. (6) We have no infallible guide to the extent of the lesion. The operation at the worst does not materially endanger life nor affect unfavorably the course of the case, and may at least reveal the lesion and lessen the pain. It may sometimes save a patient from death or from helpless invalidism of the most distressing character. Instead of selecting the occasional suitable case for operation, we should rather select the occasional case in which operation is contraindicated (the patient with great displacement of the vertebræ, the patient with high and rising temperature, the patient plainly moribund, the patient still under profound shock). (7) The dura should be opened freely; it need not be sutured; drainage is not necessary.

### Correction of Saddleback Nose by Subcutaneous Injection of Paraffin.

H. Smith (*Laryngoscope*, February, 1902) at a recent meeting of the New York Academy of Medicine presented three cases to illustrate the effect of subcutaneous injections of paraffin for the correction of nasal deformities. The speaker said that the use of paraffin for the correction of nasal deformities had been tried by Gersuny, of Vienna, in 1900. He had met with only

two reports of such cases in this country. Dr. Smith said that he had begun his work in this field by experiments on the cadaver, having raised the temperature of the tissues to the normal temperature of the human body. It was found that the paraffin spread itself out over the nose, forming a perfect cast of the nasal bones beneath. An experiment upon a rabbit showed that the paraffin was inert even in the peritoneal cavity, and no reaction resulted. There was a tendency toward encapsulation on the part of the nasal tissues. In his clinic work the method adopted had been to inject five minims of a four-per-cent solution of cocaine prior to the injection of the paraffin. A paraffin having a melting point of 110° F. was used. After sterilization it was again melted and the bubbles of air allowed to escape; and then an aspirating syringe with a large needle was filled with the paraffin, and submerged in hot sterile water until ready to make the injection. The point of the needle was carried into the tissues well beyond the point of greatest deformity. It was found that the paraffin remained plastic for about half a minute, and during this time could be molded. The results in the three cases presented, while not making a perfect nose, were nevertheless sufficiently good to encourage one to pursue this work.

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### Some Remarks on the Use of Adrenalin as an Addition to Solutions for Local Anesthesia.

C. A. Elsberg (*American Medicine,* March 1, 1902) says that his experience with adrenalin has convinced him that solutions of 1:5000 to 1:20,000 for local anesthesia have a distinct value in minor operative surgery, in that they almost entirely do away with the oozing of blood from the wound. As adrenalin is a cardiac stimulant, it has the additional advantage that it will counteract the depressing effect of the eucaine or cocaine, and because it keeps the local blood-vessels firmly contracted for a number of hours it will prevent the congestion, and hence the pain, which is so apt to follow soon after the anesthetic effects of the eucaine or cocaine have worn off. Adrenalin chloride can be obtained in a sterile condition in the form of a 1-to-1000 solution. Of this solution the required amount should be added to a sterile solution of eucaine, cocaine, or Schleich mixture just before it is to be used. The best results can be obtained with solutions which contain 1 to 5000 to 1 to 10,000 of adrenalin chloride. If the quantity of injected solution has to be a large one, it will be advisable to use a 1-to-15,000 to 1-to-20,000 solution. A more detailed account of these investigations will be published at some future date.

### Subcutaneous Rupture of Intestine After Contusion.

Neuman (*Medical Press,* March 15, 1902) reports the case of a man who fell from a scaffolding on to the edge of a mason's hod. He was taken into the Friedrichshain Hospital at once. On admission there was a good deal of collapse, with vomiting, the abdomen drawn in, excessively tender; in both hypochondria there was dulness, which continued after the withdrawal of clear urine from the bladder. Six hours later laparotomy was performed. In the abdominal cavity was a brownish fluid. The loops of the intestine were covered with fibrin. Liver and spleen were intact. The intestines were now taken out and washed with large quantities of saline solution, and then replaced until a perforated spot was reached. This was resected for a distance of 10 centimeters, union being made by Murphy's button. The abdominal wound was only partially closed. For the first two days symptoms of diffuse purulent peritonitis were present, then improvement set in, and the patient was discharged well in five weeks.

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### The Prostate.

From clinical reports and experience it seems evident, says J. B. Murphy (*Journal of the American Medical Association,* March 29, 1902), that in extreme cases prostatotomy is the operation of election.

In the hands of safe, far-seeing, informed practitioners, few cases will now be allowed to progress to an extreme condition before radical means are resorted to for permanent relief. The practice of to-day should be timely practice.

Continued use of the catheter is a menace to life, not to mention its discomfort, no matter how favorable the conditions for its performance. The patients all, sooner or later, suffer from cystitis and its sequelæ.

Prostatectomy gives the best permanent result, and is fraught with very little more danger than prostatotomy.

Suprapubic prostatectomy should be limited to exceptional cases of enormous intravesical enlargements of the prostate. It appears to endanger the sphincteric control more than the perineal operation. It is more sanguinary, and the work is more difficult and distant from the operator.

The perineal is the most direct and least bloody route. It admits of a very large opening, and permits the prostate to be

drawn quite into the open before it is attacked. It gives the greatest security against injury to the bladder wall, and least liability to disturbance of the internal sphincter. It endangers the rectum least and affords the best drainage.

It can be best performed through a Y-shaped incision with a Sims speculum for a posterior retractor. The prostate is drawn out easily with sharp hook retractors, and best separated from the bladder from behind forward. The operation should never be performed in the dark—*i. e.,* through a small incision.

It should always be an intracapsular enucleation *en masse*, allowing the anterior isthmus to remain. The hemostasis may be secured with forceps or a packing of subiodide of bismuth (not iodoform) gauze. The permanent catheter should not be introduced until the perineal drain is removed.

The patient should be kept in a semisitting position for seventy-two hours after the operation, and should be out of bed by the fifth day. He should drink large quantities of water from the onset.

Anesthetics are *sub judice*. Phosphate of sodium should be administered to keep the urine acid, and urotropin as an antiseptic. The personal equation must never be lost sight of in operating these cases, and attention to every small detail of the patient's general condition is necessary for the best results.

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### The Treatment of Suppuration in the Uterine Appendages.

C. P. Noble (*American Medicine,* March 29, 1902) says that the methods of dealing with suppuration of the uterine appendages have been greatly improved within the past fourteen years. The mortality has been reduced from more than sixteen per cent in the first half of this period to less than five per cent in the second half.

This reduction in the mortality has been obtained by (1) abandoning abdominal section in the treatment of pyosalpinx and abscess of the ovary when complicated by intraperitoneal abscess, and by substituting direct incision and drainage in this group of cases, and also for recent cases of pelvic suppuration of puerperal origin; (2) by substituting hysterectomy for oöphorosalpingectomy for the removal of bilateral suppuration in the uterine appendages.

The changes in methods of operation have permitted the development of a much more perfect technique, which yields greatly

improved results, remote as well as immediate. Ventral hernias, pedicle abscesses, and troublesome intraperitoneal adhesions have become very rare instead of very frequent sequels of abdominal operations.

Free incision and drainage in cases of suppuration of the uterine appendages complicated by intraperitoneal abscess has proven to be a most valuable life-saving measure, yielding a mortality of less than two per cent, as contrasted with twenty-seven per cent from abdominal section. The remote results have been scarcely less gratifying, thirty-two of the fifty-four having been permanently cured.

Incision and drainage has proved to be a most conservative operation, not only in the saving of life, but in the conservation of the sexual organs. Of the fourteen patients in whom subsequently a radical abdominal operation was performed, in only three was it necessary to remove more than one uterine appendage. The substitution of incision for the radical operation has saved many young women from the annoyance of a premature menopause, and has enabled a number of them to bear children. Six pregnancies are known to have occurred, resulting in five children—one pair of twins, one miscarriage, and one pregnancy now developing.

Direct incision and drainage finds its best indication in (1) puerperal phlegmon; (2) in puerperal ovarian abscess, intraperitoneal abscess, and pyosalpinx; (3) in complicated cases of pelvic suppuration of whatever origin, in which the pus is not contained within the ovary and tube.

The value of direct incision is most manifest in the worst class of cases, in which the patient is acutely ill from suppuration and peritonitis, and in which abdominal section gives its worst results.

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### Pathology of Appendicitis.

From a study of the pathology, etc., of appendicitis, J. Coplin Stinson (*Medical Record*, March 28, 1902) draws the following conclusions:

1. That as appendicitis is strictly a surgical disease, the earlier it is operated upon the better for the patient.

2. That cases operated upon early should have no mortality.

3. That during all appendicitis operations the appendix should be removed, provided irreparable damage is not done in attempting to find or remove it.

4. That where there is a local or general infection the ab-

scess cavity or cavities should be freely opened, all adhesions separated, all pus, shreds, etc., cleaned out, all inflamed or pathologic omentum excised, and all pathologic intestines and infected portions of abdomen be freely irrigated with hot water or hot saline solution till the fluid comes away clear; the intestines, etc., are then dried with sponges and returned to their normal positions.

5. That fecal concretions are more apt to be present as exciting causes of appendicitis than foreign bodies.

6. That foreign bodies are sometimes present in the appendix, and are exciting causes of appendicitis.

7. That when the appendix contains foreign material it is more likely to be a pointed or heavy body.

8. That fecal concretions closely resemble some foreign bodies of light weight—*i.e.,* grape seeds, cherry stones, etc.; and that when one is in doubt whether the material is a concretion or foreign body, it should be carefully examined microscopically and chemically to determine the exact characters.

9. That operations such as appendicitis or somewhat similar operations—*i.e.,* those involving laparotomy—can be readily, quickly, safely, and cheaply performed in the patient's house.

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## Deformities Due to Muscular Paralysis; Method of Production; Possibilities in Tendon Transplantation; Combinations that Have Been Made to Correct Deformity.

At a recent meeting of the New York Academy of Medicine, W. R. Townsend (*Medical Record,* March 29, 1902) read a paper with this title. He said that the original lesion does not produce deformity, but only a loss of power, a fact which, if generally understood and appreciated, would lead to early and appropriate treatment for the prevention of deformity. Gravity is the prime cause of deformity, though the action of the non-paralyzed muscles, the arrest of the development of the muscles and other adjacent tissues, and the weight of the body applied to weakened structures, are important contributing factors. In paralysis of the tibialis anticus and extensor longus digitorum the foot assumes the position of equinus. Paralysis of the peronei produces talipes varus. Paralysis of the interossei and flexors of the toes produces the so-called "claw foot" by the unopposed action of the extensors. When the extensors of the wrist are affected the flexors shorten and produce drop-wrist. Paralysis of the flexors

of the hand is followed by extension of the hand, but as this action is limited, practically no deformity follows. A large muscle like the tendo Achillis might be easily deprived of part of its power, and that force utilized for the purpose of transplantation better than in the case of a weaker muscle. The transplanted muscles must be made to act in approximately normal lines. The author believes that in the operation of tendon transplantation there are great possibilities for good. In cases of drop-wrist he suggests that, instead of cutting off all of the tendons, it is better to resort to the method of lengthening the tendons in addition to the transplantation.

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### The Immediate Position of the Arm After Removal of the Breast for Cancer.

Thomas Carwardine (*Edinburgh Medical Journal,* March, 1902) is convinced that the practice of fixing the arm to the chest after this operation is a bad custom and answerable for much of the impairment of utility and of edema of the arm which frequently ensue. The best position for the arm, in order to give wide range of movement, will be that (*a*) which gives the longer base to the axillary triangle, (*b*) which approximates the base to the apex, and (*c*) which prevents the tissues being misapplied during the healing process. The abducted position meets all these indications. The author protests against adduction as being anatomically, physiologically, and pathologically wrong, and urges the universal adoption of the abducted position of the arm after removal of the breast. The apparatus is simple—a pillow on which to rest the arm, and a binder to fix the forearm to the pillow, being all that is necessary.

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## MEDICINE.

### The Use of Borax and Boric Acid as Food Preservatives.

V. C. Vaughan and W. H. Veenboer (*American Medicine,* March 15, 1902) have recently made a number of investigations upon this subject. They find that the use of borax or boric acid as a preservative in butter and cream in the quantities specified in the recommendation of the English Commission is justified both by practical results and by scientific experimentation. The dusting of the crevices of hams and bacon which are to be trans-

ported long distances with borax or boric acid not exceeding 1.5 per cent of the weight of the meat is effective and not objectionable from a sanitary standpoint. Meat thus dusted with borax or boric acid does not become slimy, because the preservative thus used prevents the growth of aerobic, peptonizing microörganisms.

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### Influenza with Measles.

Süsswein (*Wiener Klinische Wochenschrift,* 1901, No. 47) recently made a number of experiments with regard to these two diseases. He says in ten out of twenty-one bacteriological examinations of measles, influenza could with certainty be recognized. With a platinum wire Süsswein took the secretion from the nasal passages of the living and made cultures, and made use of the bronchial contents and pulmonary and pleuritic exudate from the cadaver. From these investigations it appeared that influenza is a very frequent complication of measles. It also appeared that the course of measles complicated by influenza is changed and often in an unfavorable manner, and also there are cases of measles with influenza which clincially are with difficulty distinguished from uncomplicated measles.

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### Snake Venom in Relation to Hemolysis, Bacteriolysis, and Toxicity.

From a number of experiments made by Simon Flexner and Hideyo Noguchi (*Journal of Experimental Medicine,* March, 1902) the following conclusions are drawn:

1. All venoms when used in suitable quantities destroy the bactericidal properties of many normal blood sera.

2. The manner of this destruction consists in the fixation of the serum-complements by the venoms.

3. Venoms have no action upon the intermediary bodies of serum.

4. If the venom is incapable of uniting with the serum-complements (Necturus), then the original bactericidal properties remain unaffected by the presence of the venom.

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### Typhoid Fever.

W. S. Thayer (*St. Paul Medical Journal,* April, 1902) says that it is a crying shame that all our large cities should not adopt

measures properly protecting the basin from which their water is drawn, or install proper filtration plants. It is humiliating to hear our countrymen so frequently advise their friends and relatives to avoid drinking water in European cities, while at home they use with freedom water which is infinitely more dangerous.

Where the water-supply is imperfect we should always boil all water used for domestic purposes, and we should remember that there is danger, not only in the water we drink and in that with which we wash our dishes, but in that with which we wash our bodies and clean our teeth.

We should also recognize and remember the fact that typhoid bacilli may, and unquestionably do, live for considerable periods in ice. He is inconsistent who boils his water, but uses ice concerning the origin of which he is uncertain. Park has recently shown that typhoid bacilli may remain virulent for as long as eighteen weeks in ice.

We should remember that any uncooked article of food which has been washed in or exposed to contaminated water may be dangerous.

It is more than probable that lettuce and greens employed for various salads have more than once conveyed the disease; indeed, manure consisting of human feces is sometimes employed for bleaching lettuce and celery.

Of prime importance is it to impress upon the public the danger of neglecting to exercise the utmost care with regard to the disposition of the excreta of typhoid patients. In country districts these should always be disinfected, and should never be deposited where they may be left uncovered. When we consider the prevalence of flies at the height of the typhoid season, and the ordinary privy arrangements of the simple country houses, how easy it is to appreciate the possibility of the transmission of infection by means of flies.

It should be the duty of every physician who has a case of typhoid fever under his care to instruct the family in the nature of the process, and in the danger of failing to insist upon proper measures of caution, and in the State and county and town health boards should see to it that such measures are carried out.

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### Leucocytosis of Scarlet Fever and its Complications.

J. M. Bowie (*Journal of Bacteriology and Pathology*, March, 1902) says that practically all cases of scarlatina show leucocytosis. The leucocytosis begins in the incubation period, very shortly after infection reaches its maximum, at or shortly after

the height of severity of the disease, and then gradually sinks to normal.

In simple uncomplicated cases the maximum is reached during the first week, and the normal generally some time during the first three weeks.

The more severe the case, the higher is the leucocytosis and the longer it lasts; the slighter the case, the slighter the leucocytosis, and the shorter time it lasts.

A favorable case in any one variety of the disease (*e.g.*, simple, anginose, etc.) has a higher leucocytosis than an unfavorable one of the same variety.

The fever, *i.e.* temperature, has no direct effect on the leucocytosis.

The polymorphonuclear leucocytes are increased relatively and absolutely at first and then fall to the normal, the lymphocytes acting inversely to this; this cycle of events occurs in simple cases within three weeks.

Eosinophiles are diminished at the onset of the fever. They increase rapidly in simple favorable cases till the height of the disease is past, then diminish, and finally reach the normal some time after the sum total leucocytosis has disappeared—in short, when the poison has all been eliminated.

The more severe the case, the longer are the eosinophiles subnormal before they rise again, as described above; in fatal cases they never rise, but sink rapidly toward zero, and remain there.

The leucocytes, in complications, go through a cycle of events similar in all respects to that of the primary fever, as regards both sum total and differential leucocytosis, and the same laws govern the behavior of the leucocytes in both cases.

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### Remarks upon Some Experiences with the Widal Reaction.

Libman (*Medical News*, March 29, 1902) believes that a positive Widal reaction always means that typhoid fever is or has been present. Partial reactions are to be absolutely ignored; a negative does not exclude the existence of typhoid fever. It occurs under any of the following conditions: (*a*) The reaction may have already disappeared; (*b*) the reaction may only appear later; (*c*) the culture may be at fault; (*d*) the case is clinically one of typhoid fever, and there may never be a positive reaction; (*e*) the disease is not typhoid fever. A negative reaction may

occur if the patient is suffering from an infection by a paracolon bacillus, and still, for the practitioner, the case is identical with one of typhoid fever. Again, a positive reaction may occur when the case is clinically not one of typhoid fever, and yet the autopsy may show the presence of the typhoid bacillus in some part of the body, or it may be found during life in the urine, feces, rose spots, blood, or some complicating lesion. Scientifically, the Widal reaction is of the greatest value in establishing the presence of infection by the typhoid organism in certain cases and in assisting in identifying the typhoid bacillus. It is of great practical use, but it is not so valuable as could be wished. In many cases, however, it can alone establish the diagnosis. This is especially true in the atypical cases in which pneumonic or meningeal symptoms usher in the disease.

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### The Gastric Functions as Observed in a Patient Whose Spleen Had Been Removed.

Pietro Gallenga (*Il Policlinico,* February, 1902; *Medical Record,* March 26, 1902) gives the following as the chief facts noted after splenectomy: (1) Insufficient and retarded digestion of albuminoids; (2) increased and protracted secretion of HCl; (3) absence of abdominal fermentation; (4) retardation in the emptying of the stomach; (5) increased activity of artificial digestion by the addition of pepsin or of splenic extract from a lamb to the gastric filtrate; (6) absence of subjective phenomena on the part of the individual with the exception of a certain hyperexcitability of the stomach toward Ferannini's paste (150 grammes of pounded meat, one egg, 250 grammes of water), and a slight loss of bodily weight. The conclusions drawn are that the spleen probably plays an active part in the digestion of albuminoids depending on some internal secretion influencing either the quantity or the activity of pepsin. Although the peptonization of albuminoids is diminished, it is to a certain extent secured by the compensatory action of some other organ, and by the increase in the hydrochloric secretion.

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### Differential Diagnosis of Smallpox.

At the recent meeting of the Tri-State Medical Society J. C. Sullivan (*Medical Record,* April 12) read a paper on this subject. Sullivan impressed the point that whenever we have a patient

complaining of severe and persistent backache, followed by fever and a pustular eruption affecting the palms of the hands and the soles of the feet, protruding from beneath the outer skin, we have a case of smallpox to deal with, no matter how insignificant or mild it may appear, and a case of confluent or even hemorrhagic smallpox may be contracted from it. Hence the necessity of immediate vaccination of all parties exposed, and of strict quarantine or isolation in each case. There are but two diseases that prove these phenomena, namely, syphilis and smallpox. The former should not be confounded with the latter, as a history of chancre would suffice for the differentiation. From measles it may be differentiated by Koplik's sign, when found, which consists in the appearance of little white pearly bodies on the inside of each cheek before the faucial redness of early measles; the typical lobster rash, strawberry tongue, and persistent white line of that most eccentric of all diseases, proclaimed scarlet fever; a multiform punctated and individual crescentic rash, that of rotheln; the successive crops of vesicles affecting the shoulder-blade, probably chicken-pox. A pustule stuck on the surface of the skin, impetigo, lichen planus, and papular eczema, may be at first confounded with smallpox; but the pustular eruption of the palms of the hands and soles of the feet makes the diagnosis of smallpox positive.

The essayist did not believe there was such a disease as Cuban or Porto Rican itch. The adherents of the theory of a third or intermediate disease similar to rotheln, measles, and scarlet fever have strongly fought the idea that modified smallpox could be a true disease, still, by repeated examinations and diagnoses the most eminent specialists have named it smallpox. Many admit its contagiousness, but fail to quarantine. In this respect they err, for when a disease, no matter what its name or nature, is contagious, and before it becomes epidemic, it is the duty of every physician to report it to the health authorities, and work in concert with them to see that it is at once quarantined until all danger of its communication to others shall have passed.

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## THERAPEUTICS.

### The Treatment of Inoperable Cancer.

M. B. Tinker and A. B. Craig (*American Medicine,* March 29, 1902) say that the treatment of inoperable malignant growths is a subject which has not received sufficient attention of

late. Before the introduction of anesthesia and modern antiseptic surgery, suitable palliative treatment was a matter of general interest—indeed, almost the only resource of the surgeon when extensive operations for the radical removal of malignant growths were seldom performed.

Until the cause of carcinoma and sarcoma is definitely determined, we cannot expect any entirely satisfactory method of treatment other than that by operation: but physicians and surgeons should not lose interest in such cases as soon as they feel that they are incurable, for usually much can be done for the comfort of the patient by palliative measures. One of the most important papers on this subject which has appeared recently was that by Czerny, of Heidelberg, read at the German Surgical Congress for 1900. He emphasized the importance of palliative treatment, and even reported a number of cases which had been considered inoperable that were successfully treated and cured by non-operative means. In the management of inoperable cases three things are of great importance—the prevention of bleeding, which of course rapidly reduces the strength of the patient, the relief of pain, and the treatment of foul discharge, which are among the most distressing features of malignant growths.

For the prevention of hemorrhage the ligation of a main artery may be considered. This was formerly frequently practiced in the treatment of malignant growths, but has of late years gone out of general use. Good results have followed this measure, especially in the treatment of carcinoma of the tongue. Dawbarn, in his recent Gross prize essay, has shown the value of ligation and excision of the carotid arteries in the treatment of malignant growths located in the tissues supplied by these arteries. Czerny believes that curetting and the use of the actual cautery will also in many cases give much relief, and in certain cases effect a cure. He advises the use of chemical caustics without curetting, and finds zinc chloride solution of from 20 to 50 per cent the best preparation. Gauze strips are moistened in such a solution and packed into the cavity. Caustic plasters may be used on the flat surfaces. Czerny cites several cases in which after curettement and excision, with the use of zinc chloride solution, cases that had been considered inoperable by good authorities were definitely cured. He has also used compresses saturated with 10 to 30 per cent formalin solution, arsenic pastes, and injection of Fowler's solution, but these measures cause inflammation and pain, and frequently poisoning results. There have been a few definitely good results from the use of electric treatment and Adamkiewicz's cancroin. The use of Coley's serum is too well known in this country to need more than mention in

this connection. Few fair-minded persons who have followed the literature of the use of Coley's preparation will deny that a number of cases of undoubted sarcoma have apparently been cured by its use. Unfortunately, it is of little avail in the treatment of carcinoma.

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## Concerning the Hypnotic Action of Apomorphine Hydrochlorate in Alcoholism.

W. Coleman and J. M. Polk (*American Medicine,* March 8, 1902) draw the following conclusions in regard to the hypnotic action of apomorphine hydrochlorate in alcoholism:

1. To obtain a hypnotic action with apomorphine it should be given hypodermically.

2. The dose cannot be fixed. It is best to begin with a small dose—1/30 grain or less—and to repeat this or give a slightly larger dose within a short time. Further doses should not be given after vomiting occurs, until several hours have passed.

3. Doses repeated in two or three hours have but little beneficial effect.

4. The administration of apomorphine should not be repeated in patients who are weak.

5. The duration of the hypnotic action is only a few hours, and when the patient awakes his condition is practically unchanged, except in "ordinary drunks."

6. The best results are obtained from apomorphine when it is followed in two or three hours by some recognized hypnotic, as bromide, chloral, paraldehyde, etc.

7. Solutions of apomorphine are unstable, and should be freshly made for use. Old solutions should never be used.

8. Apomorphine may be employed as a hypnotic in selected cases of alcoholism. The best results were obtained in "ordinary drunks" and in cases verging on delirium tremens. But in some of these cases the drug has no effect whatever.

The administration of apomorphine to patients in delirium tremens is, in the writers' experience, without beneficial result, and may even be attended with danger from the depressing action.

The above analysis represents in the main the results obtained with apomorphine in all the 300 patients presenting alcoholism to whom the drug was administered.

### Some New Uses of Ichthargan.

From recent reports it appears that the field of application of ichthargan (ichthyol silver) is constantly widening. It has recently been successfully used in gastric catarrh, in dilatation, and in gastric ulcer. It is given as follows:

| | |
|---|---|
| Ichthargan | ½ grain. |
| Distilled water | 7 ounces. |

Tablespoonful three times a day.

In chancroids it is best applied in substance or in ointment form. A good formula for an ointment is the following:

| | |
|---|---|
| Ichthargan | 15 grains. |
| Glycerin | 15 drops. |
| Distilled water | 8 drops. |
| Petrolatum | to make 2 drachms. |

Rub well the ichthargan with the water and the glycerin, and then incorporate with the petrolatum.

It has also been used, with alleged success, internally in acute gonorrhea, in the same doses as above. The ointment has also proved useful in phlegmons, furuncles, anthrax, etc. In syphilitic ulceration of the throat, in trachoma, and in conjunctivitis it may be applied in one- or two-per-cent solution, by means of a camel's-hair brush.

Dr. Wilckens, of Hamburg, reports a case of blood poisoning in which he used a 10-per-cent ichthargan ointment with excellent results. The septic process started from the right index-finger and spread progressively, reaching the axilla. From 15 to 30 grains of the ointment was well rubbed into the arm and forearm twice during the day, and in twenty-four hours after the first application the process was at a standstill. After that the application was made only once a day, and in ten days the patient was perfectly well. One may, therefore, conclude that ichthargan is absorbed through the skin into the lymph channels, where it exerts its bactericidal action.

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### Radical Cure of Hydrocele by Minute (Two-minim) Injections of Carbolic Acid.

W. B. Coley and P. A. Satterwhite (*New York Medical Journal*, March 29, 1902) say that their routine method of treatment in infants and young children consists in simple daily applications of equal parts of tincture of iodine and tincture of belladonna. Long experience with this method has convinced them

that it has some effect in hastening the absorption of the fluid, although doubtless spontaneous cure would result without any application. Occasionally, when the hydrocele is very large, the fluid is aspirated and the tunica irritated by the point of the trocar. This, however, is not done more than three or four times in the course of a year. Hydrocele in the adult, however, is a condition that requires more serious consideration. Up to a year ago they had always made use of the carbolic injection method of Lewis, with the exception that they never used more than ten minims at one injection. As their cases were mostly in dispensary patients, the after-results were not very carefully traced. A sufficient number of cases, however, were traced to convince them that the great majority of patients could be cured by an injection no larger than the one mentioned. About a year ago, influenced by the fear of a private patient that even ten minims of carbolic acid might possibly cause trouble, Coley determined to try the effect of still smaller doses, and from that time on treated all adult cases that came to the clinic, without selection, with injections of two or three minims of carbolic acid, believing that it would probably be necessary to repeat the injections several times before effecting a cure.

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### A New Method of Treating the Persistent Vomiting of Pregnancy.

Condamin (*Medical Press,* March 26, 1902) gives a new method of treatment of persistent vomiting of pregnancy. The writer says that although it cannot be said that the principle is altogether new, it is still so excellent that it should be more widely known than it is. The author sees in such vomiting a sign of intoxication and an indication for removal of the toxic substance, whatever it may be. It is his constant endeavor to provide a substitute for the induction of the abortion that such cases generally end in. For some time past he has invariably been able to dispense with this by adopting the following line of treatment:

Absolute abstinence from food for from eight to ten days; daily injections into the rectum of three to four liters of artificial serum in quantities of 300 grammes, with or without the addition of opium; in case of absolute intolerance on the part of the rectum, hypodermic infusion; after ten or twelve days' abstinence from food, gradual return to feeding by the mouth.

## OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

### Treatment of the Eustachian Tube by Means of the Electro-bougie.

After a year's experience Thomas J. Harris (*Annals of Otology*, February, 1902, vol. xi, No. 1) feels warranted in drawing the following conclusions:

1. The electro-bougie has a place in our aural therapy, though a less important one than was at first supposed.

2. It should be used after and not before other methods of treatment.

3. It will be most liable to fail if any associated internal ear disease is present.

4. Its results are not always permanent; the stricture may reform; we may hope rather for a diminution than a disappearance of the tinnitus.

Two cases totally relieved.

5. Its use is not without danger, and a proper knowledge of the anatomy of the parts and of the technique is essential.

6. It is a question whether the process is a true electrolytic one, or if in many instances the obstruction is a true fibrous stricture.

### Acute Inflammation of the Middle Ear.

E. L. Meierhof (*Archives of Otology*, vol. xxxi, No. 1) believes that in nearly every case of acute inflammation of the middle ear early expert treatment will prevent the development of chronic suppuration, and also very few cases will demand the major operation of opening the mastoid cells.

He insists on the importance of a free incision of the drumhead as the all-important treatment in these cases. Experience has taught him that it is a safe rule to incise the drumhead where there is doubt, especially so in the exanthemata. He has never seen harm, when there was pain and redness of the drum, from making an incision aseptically. The artificial opening heals better and with less scarring; and we should, if possible, anticipate rupture by a timely incision, and thus prevent perforations in the drum positions where drainage would be interfered with.

## DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Lecturer on Dermatology, Detroit College of Medicine.

### Cancer of the Skin.

In the *Journal of Cutaneous and Genito-Urinary Diseases* for April, 1902, J. A. Fordyce, M.D., professor of dermatology, Bellevue Hospital Medical College, in an article on "Cancer of the Skin," states in part:

"The malignancy of epithelial cancers depends rather upon their structure than their location. We are able, in a general way, to arrive at certain conclusions regarding the relative malignancy of cutaneous cancers from a histological study of their structure and the manner of their growth. The lowermost layer of the epidermis and the outer root sheath of the hair follicle are separated from the derma by a stratum of columnar cells, which have the same relationship to certain cutaneous cancers that the basement membrane of glands has to carcinomas starting in these organs. An intact basement membrane prevents the proliferating glandular epithelium from infecting the surrounding tissue, so that we have an adenoma-like growth before a carcinoma. . . .

"Circumscribed, non-infiltrating epitheliomas are readily cured by excision or caustics, and show little tendency to recur. On the other hand, chronic infiltrating rodent ulcers recur quite as often after excision as after the use of the curette and suitable caustics. Curettage alone, *without* the subsequent use of active caustics, like arsenic or chloride of zinc, spreads the growth by opening the lymph vessels, and more readily permits absorption and dissemination of the cancer cells. Caustics destroy the cell growth which is beyond the reach of the curette, and if repeatedly used when the slightest recurrence shows itself many infiltrating epitheliomas may be radically cured with less destruction of tissue than by the purely surgical methods. It is in this class of cases (chronic infiltrating rodent ulcers) that such brilliant results have been attained by the Roentgen rays."

### The Roentgen Rays.

In his report of thirty-six cases (*Journal of the American Medical Association,* April 12, 1902) Dr. Wm. Allen Pusey, professor of dermatology in the University of Illinois, Chicago, comes to the following conclusion in part:

The sections show that *x*-rays cause a degeneration of some

sort of carcinomatous tissue and a disappearance of this degenerative substance, presumably by absorption. This disappearance of carcinomatous tissue is followed by the formation of firm, healthy scar tissue. A similar process presumably occurs in the disappearance of the diseased tissue in tuberculosis, sarcoma, and pseudoleukemia. However it occurs, the fact stands that growths of embryonic tissue and other tissues of low vitality are made to disappear under the influence of *x*-rays without the destruction of the involved healthy tissue.

As a general proposition the use of *x*-rays should in his opinion be limited to those cases which for any reason it is inadvisable or impossible to treat by ordinary methods. In other words, until our experience with *x*-rays extends over a longer time, their use should be a reserve method of treatment. He particularly wishes to make it clear that he does not advise the use of *x*-rays as a substitute for operations in operable malignant growths. As regards cutaneous carcinomas—epitheliomas—he believes no strong objection is to be found to the use of *x*-rays as a primary method of treatment, and some advantages are to be urged for it. Every other malignant neoplasm should have the advantage of operation where it is practicable. On the other hand, he believes that with the present evidence of the effect of *x*-rays upon malignant neoplasms we are justified in maintaining the following propositions:

1. In all cases of malignant disease which have been operated on there is reason to urge the subsequent use of *x*-rays as a prophylactic measure.

2. In all inoperable cases of malignant disease the use of *x*-rays should be tried.

3. In all such cases there is a probability of relieving pain and a possibility of inhibiting the progress of the disease.

## GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

### The Shortening of the Round Ligaments by the Vagina.

Bucura (*British Gynecological Journal,* February, 1902) writes in favor of the operation recommended in 1886, and since performed by Wertheim in eighty-six cases. Of these women, two had recurrence of the displacement when discharged, seven have subsequently had normal labors, three have aborted, and three were gravid and not yet delivered. As regards permanent results,

fifty-five cases were available; in forty-eight there were ten cases of relapse, all to be explained by complications, and not by defects in the method. The permanent results of ventro- and vagino-fixation are better, but the former causes more pain and hernia, and the latter leads to serious complication in childbirth. Over the Alexander-Adams operation Wertheim's method has the advantage of avoiding the abdominal scar and the ever-present risk of hernia.

### Surgery of Pyosalpinx.

Flatau (*British Gynecological Journal,* February, 1902) used formerly to form a pedicle to the purulent sac and tie it, but soon abandoned the practice in favor of the vaginal radical operation after the Doyen-Landau method. Of late years he has resumed abdominal extirpation. The two great dangers of this method used to be, first, the risk of breaking the sac while trying to form a pedicle to the tumor, as this latter is generally firmly adherent, and secondly, troublesome and annoying exudations from the stump after the operation; but these dangers Flatau thinks he avoids by his technique. A disciple of Rump, he does not try to make any pedicle when the natural conditions do not give one, and avoids any ligature *en masse.* He cautiously divides the adhesions of the tubal sac *in situ* with knife, scissors, and forceps, without any traction on the tumor, and then amputates the latter with scissors at the insertion of the ligament, in such a way as to excise the whole of the tubal corner of the uterus in the shape of a cone. The hemorrhage is but slight; two or three points are secured with artery forceps and tied, and the gap in the uterus and the slit in the broad ligament are closed by continuous suture so as to bring the peritoneal surfaces into contact. As in this method no unnatural strain is put upon the peritoneum, the pain after the operation is materially diminished. For intra-abdominal ligatures and stitches Flatau has for years employed cumol catgut prepared in Kronig's way.

## NEUROLOGY.

UNDER THE DIRECTION OF CHARLES W. HITCHCOCK, M.D.,

Attending Neurologist to Harper Hospital.

### Dispensary Treatment of Mental Diseases.

In the *American Journal of Insanity* (vol. lviii, No. 1) Dr. Walter Channing tells most interestingly of the establishment and experience of the Department for Mental Diseases of the

Boston Dispensary, where prior to the existence of this department a large amount of clinical material was frequently unrecognized, unused, and so not benefited. The Pennsylvania Hospital was the pioneer, and the Boston Dispensary makes the second systematic attempt in this country at work of this kind.

A considerable number of the first four hundred cases had developed insanity, and when necessary had been sent to hospitals. In incipient cases the impending attack had occasionally been averted by the care exercised, and the community was protected.

The defective, degenerate, and ignorant beget their like, and the intelligent recognition of their children, and putting them in the way of such education as is proper and possible for them, is well worth while and a distinct benefit to society.

There is much more to teach students of mental cases than at first sight appears.

Of three hundred and seventy-two cases, forty-one were cases of neurasthenia, sixty-five feeble-mindedness, eleven simple melancholia, fourteen chronic delusional insanity, twelve organic dementia, thirteen dementia præcox, twenty epilepsy, etc., etc.

Dr. Channing believes that aside from the good to the student and to the community, the alienist and the neurologist will alike be helped by the work of such a department.

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### Normal and Abnormal Delusion.

Chas. H. Hughes (*Alienist and Neurologist*) points out that delusions are perfectly consistent with sanity, and that "it is the implication of the deluded mind with a brain primarily or secondarily, organically or functionally, involved in diseases that brings the delusion within the domain of psychiatry."

Disciples of Swedenborgianism, mesmerism, Dowieism, Mormonism, Christian science, as also the habitués of the stock exchange, etc., etc., are cited as examples tending to show that delusions are not inconsistent with sanity. Extreme credulity is not insanity.

The case of a Miss Brush had been under investigation, who believed that "though her blood were all taken out of her body, she could yet be made to live by the power of Christian science healers."

Brain disease, engendered delusion, is what marks insanity. Delusion, indeed, is more common in daily life than we are wont to think. Mental aberrations of speech and conduct, cardiac disturbances, and sundry other somatic evidences of disease conjoined with delusions may stamp them as the very probable or even certain product of disease.

# THE MEDICAL AGE

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## ORIGINAL CONTRIBUTIONS.

### THE WOMAN OF THE HOUR—THE TRAINED NURSE.*

BY G. FRANK LYDSTON, M.D., CHICAGO.

It gives me great pleasure to be present on this occasion, and to say a few words about the noble profession into which these young women, who constitute the graduating class this evening, are about to enter. No one has had occasion more often than I to observe and appreciate the work of the trained nurse. No one is under more obligation than I to her faithful, conscientious, and intelligent ministrations to the sick.

When I speak of nursing as a profession, I speak advisedly, for it has so come to be understood by the intelligent portion of the community. Nursing has arrived at a stage of advancement in which education, refinement, and a careful scientific training are necessary to its successful practice.

Not many years ago the appellation, "nurse," conjured up in one's mind unpleasant visions of Charles Dickens's immortally offensive Sairey Gamp, a character which, it must be confessed, has enriched literature, although her personification in real life has sorely afflicted humanity. Not even the playful pleasantries of the good lady could redeem her reputation as a Job's comforter. Think of the keen and delicate humor displayed by her when she demonstrated what lovely corpses her unfortunate patients would make when the end should come. We must be charitable to Sairey, and conclude that she had a way of her own of extracting the sting from death and snatching victory from the very grave.

And the Sairey Gamps are not all passed away. Sairey lives, and will ever live, in the person of the so-called born nurse. Every neighborhood has one or more of these ubiquitous individuals. The born nurse knows more than all the doctors in town. Yea, even more than all the old women of the neighbor-

*Address at the graduating exercises of the Training School for Nurses of the German-American Hospital, Chicago, March 31, 1902.

hood, be those women male or female. Greater knowledge than this hath no man, that he knoweth it all. The good lady under consideration, to do her full justice, really has an immense store of valuable knowledge, which makes her about as safe as a carload of dynamite. She is dirty, frowsy, coarse, illiterate, perhaps profane, but she has the intuitive genius of nursing, which was born in her, and her patients get no better very fast, and we erect little white headstones, with fulsome obituaries inscribed thereon, as a tribute of appreciation of the talents of the Sairey Gamps of to-day.

Fortunate indeed is it for the profession of nursing that history has antidoted Dickens's grotesque and unwholesome character study, by the record of the life of the immortal Florence Nightingale, the noblest woman produced by the century just passed. Florence Nightingale is indeed an ideal for the nurse of all future generations. Born to affluence, education, and refinement, she early showed those philanthropic impulses which raise one above the dead level of the mass of humanity. Hardly was she a woman grown before she began to interest herself in the welfare of her fellow men. She took up the study of the methods and management of English and Continental schools, hospitals, and reformatories. Her first real work was done in 1851. During that year she spent some months in a German hospital, under the auspices of the Protestant Sisters of Mercy. After acquiring here a practical working knowledge of nursing, she went to London, where she restored and supervised for some time the hitherto neglected Governesses' Sanitarium in Harley Street. Hardly had this work been accomplished when the horrors of the terribly mismanaged army hospitals in the Crimea caused such a revulsion of popular feeling in Great Britain that the up-to-then callous government was compelled to yield to the general clamor for improvement in the care of the sick and wounded soldiers. Miss Nightingale was called by Lord Herbert, who was then Secretary of War, to assist in reforming and reorganizing the army hospital service. The work that she and the noble band of devoted women who were in company with her did in the Crimea is known to all the world. It will go down through the ages as an unparalleled example of self-sacrifice and devotion to suffering humanity.

On her return a popular subscription of $250,000 was presented to her. She differed from war heroes in general. She devoted the money to founding a school and home for nurses, which still exists—the Nightingale Home at St. Thomas's Hospital in London. In this home she built for herself a monument nobler than the most beautiful shaft ever erected. Miss Nightingale

afterward gave valuable advice and assistance in the management of the military hospitals during the great Civil War, and later in the Franco-German War. Her contributions to literature are standard. In 1859 she published her "Notes on Hospitals." In 1860 her "Notes on Nursing" appeared, and a few years later she published her "Observations on the Sanitary Condition of the Army in India."

The young women who graduate to-night may well be proud to walk in the pathway blazed for them by that greatest of nurses, Florence Nightingale.

No one can appreciate the work of the skilled nurse more than the busy physician. She is his ablest lieutenant. It is a great comfort to him to know that his directions for the care of the sick are faithfully and intelligently carried out, and the patient properly cared for. Practical medicine nowadays consists more of common sense and less of drugging than formerly. Intelligent nursing is now our mainstay in the care of the sick. This demonstrates most emphatically the importance of the trained nurse. When she is capable and conscientious, the physician feels that the battle with disease is half won.

If one would appreciate to the full the value of the trained nurse, he should visit the operating-room of one of our large hospitals, and watch the progress of an important operation. It is the nurse who prepares the patient, the instruments, and the dressings. She it is who stands at the surgeon's elbow, and interprets his slightest wish. One might be constrained to believe that she is a mind-reader, so quick is her intuitive perception of the surgeon's needs, as she hands him sponges, instruments, and dressings.

Not every woman is qualified to study and practice nursing. The profession of nursing demands more than the average intelligence, a fair degree of education, methodic habits, and, above all, a well developed faculty of observation. The nurse should be possessed of cleverness, good nature, good spirits, and a knowledge of human nature. The profession of nursing is one which the women of delicate physique and defective endurance should not enter. There are few cases of serious illness that do not put the endurance of the strongest woman to the severest test.

If I am correct in the assumption that the relief of human suffering is the most vital of human interests, and that in this field the trained nurse stands preëminent, you must admit that she is indeed the woman of the hour.

I congratulate you, ladies, upon your selection of nursing as your life's work, and welcome you as coöperators with my profession in the care of the sick.

## RECURRENT HYPERPLASTIC TISSUE IN ORBIT FOLLOWING ENUCLEATION, PREVENTING USE OF ARTIFICIAL EYE; WITH REPORT OF A CASE.

BY C. C. STEPHENSON, M.D., LITTLE ROCK, ARK.

Mrs. J. B. P——, white, aged fifty-two, came to my office November 22, 1899, for consultation and advice in regard to her eye. She related the following history: On the morning of July 3, 1892, she was traveling on a train in Iowa. It being very warm weather, the car windows were hoisted, and as the train was behind time it was running very fast. She was struck in her left eye by a hot cinder. The pain was intense. When she reached her destination shortly afterward she went to bed, and as an oculist could not be procured to render service, the family physician was called in, who prescribed. On the 5th she went to the city to consult an oculist, who gave a favorable opinion, but in a week after the reception of injury vision in the injured eye was gone. While the cinder must have been a large one and cut deeply into the cornea, still she succeeded in removing it herself before visiting the oculist. Since reception of injury she has suffered almost continual pain for nearly nine years.

Examination revealed a panophthalmitis of a high degree. Just over the pupil was what she called "a corn," and seemed to be the spot that secondarily produced and kept up the panophthalmitis. This so-called "corn" was a hard crust, or scab, and beneath it was a shallow suppurating cavity. I advised enucleation at once, and was informed that I was the first man that had suggested an operation, and coupled with this information she hesitated to have any operative procedures. An hour or so later her son came and said that she had decided to have the eye removed. I removed it after the Vienna method that afternoon, with no untoward results, save a slight ecchymosis on the cheek, from pressure by the speculum.

In six weeks after enucleation she was given an artificial eye, which, by the way, was the smallest artificial eye that I could get, but was a splendid fit, as well as a good match. She wore this eye three or four weeks, when without cause it "popped out" of the socket, as she related. The eye broke, and she came for another, which was ordered. When she returned two weeks later the eye could not be put in, owing to an abundant production of hyperplastic tissue just inside and along the lower lid margin, extending from above the inner canthus to extremity of outer canthus. A ten-per-cent solution of cocaine was applied, and an incision was made with a Graefe knife through the tissue,

and the eye was inserted without trouble. The groove through the tissue was quite perceptible for a few days, and I felt secure in the belief that no further trouble would follow. But in a week or so more the patient returned with her eyelids only partially covering the sclerotic. She could not by closing them tightly make them cover the iris, and approximate anything like completely. The orbit was again cocainized, and another incision was made as before, with some additional cutting with a pair of scissors of fibrous matter or tissue that was not cut with the knife. Again the eye was inserted, and she went away wearing it nicely, but only to return in about a month with the same condition of affairs in existence. An incision was made the third time, and again she returned in about another month, this time with an eversion of the lower lid (an ectropion). The growing tissue had united with the extreme edge of the lid margin, and it was wholly impossible to insert the eye in the orbit, much less wear it.

This time, after cocainizing, I seized as much tissue as I could with a pair of fixation forceps, lifting it is high as possible, and cutting off the entire growth with a pair of scissors, thinking this would surely end the trouble and give a good orbit. The eye was inserted and my patient left, sharing in my belief that our cut this time would be final. But alas! our hopes were soon dispelled, for within another month the renewal of hyperplastic tissue had recurred and was in the way more than ever. I advised the wait of another month to observe and let the recurrence complete its organization and growth, when I intended to do an operation which I felt assured would prove a perfect destruction to the periodical return of the growth. After waiting, the patient returned, and the orbit was cocainized with a ten-per-cent solution of cocaine, followed in ten minutes with an application of a solution of desiccated adrenals, of the strength of five grains to the drachm of water; these were repeated the second time in fifteen minutes. The effect was beautiful, producing a pearly white; the growth was lifted as high as possible, and a deep incision made with a Graefe knife close to the lid margin; then it was carefully dissected away in its entirety, without any hemorrhage. Only a few drops of blood were lost, all told, which was a desideratum, as I cauterized the surrounding surface with the electrocautery, heated to a cherry-red heat, immediately. This operation was not only bloodless, practically speaking, but the pain was insignificant.

After the growth of tissue was removed I examined it, but could not see that it was anything but tissue; hence I call it recurrent hyperplastic tissue. The artificial eye was replaced and

the patient directed to return next day, when the artificial eye was removed and the orbit cleansed and cauterized with a sixty-grain-to-the-ounce solution of nitrate of silver. This was repeated the following day, and I feel confident now that my patient will be able to reap the reward she so richly deserves and has so justly earned by her perseverance, by wearing her eye without further recurrence of the growth. However, sufficient time has not elapsed to say it is a success.

*Later.*—Growth has returned and nearly fills orbit. Impossible to insert an artificial eye. Will have microscopical examination made, and if malignancy is found to exist a more radical operation will be performed.

This case was submitted in detail to Dr. W. B. Marple, of the New York Eye and Ear Infirmary, and his opinion asked. His reply was that he never had a case of a similar nature, nor had he ever heard of any one who had. He said, however, that he "believed that it was malignant," and advised a thorough extirpation of the entire growth. I am sorry to say that I have not seen the case for nearly a year, and cannot say what the present condition is.

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## INDICATIONS FOR TANNIGEN IN MEDICAL PRACTICE

BY RICHARD FRIEDLANDER, M.D., OF BERLIN.

In conditions of acute irritation of the intestine in consequence of a retention of undigested foods, tannigen is of course incapable of removing the diarrhea, and purgatives are indicated. It is equally ineffective in the treatment of diarrheas of nervous origin, as well as those dependent upon severe lesions of the intestinal mucous membrane. In dysentery, cholera, typhoid fever, and tuberculosis, however, it is a very serviceable and innocuous remedy. It has been given with excellent results in subacute and chronic catarrhs of the large intestines, in which it diminishes the secretion of mucus, reduces the number of stools, and renders them more consistent; furthermore, this also applies to acute diarrheas after the removal of the cause of the irritation. In the diarrhea of phthisical patients it will act as an astringent, of course, only as long as it is administered; but under its use the frequency of the movements and their fluid character are diminished, while it permits of a better utilization of the ingested food. Naturally its main application is to be found in the numerous diarrheal affections of children, but even here its indications must be strictly circumscribed in order to prevent any failures from this locally-acting remedial agent.

The diverse and frequently completely contradictory statements of authors regarding the efficacy of tannigen in the various forms of diarrhea in children are probably in great part to be attributed to the fact that no exact nomenclature exists, and while one author speaks of cholera infantum, and another of enteritis, and the third of summer diarrhea, all three of them mean one and the same disease. According to Heubner, we distinguish three kinds of stools: first, the dyspeptic, which is pulpy, frequently green, and mixed with much mucus; secondly, entero-catarrhal, which is diarrheal and excessively watery; thirdly, the enteric, which has an admixture of cellular, inflammatory, and often bloody or purulent elements and much mucus. Tannigen is of excellent service in the treatment of the residual symptoms of acute dyspepsia and in intestinal catarrh in case the children are not too debilitated, while in chronic dyspepsia and enteritis it is unreliable. Unpleasant concomitant effects during the administration of tannigen have never been observed. The decomposition of the drug in the intestine of the infant, the contents of which have an acid reaction, can take place only at points of the mucous membrane where alkaline digestive fluids are secreted, or where the intestinal contents are in a condition of alkaline or putrid decomposition. In older children, however, it has been highly recommended in chronic diarrheas occurring so frequently in connection with rickets. It is necessary, of course, that aside from the administration of tannigen strict dietetic regulations should be prescribed and carefully followed.

It is worthy of note that various authors have reported brilliant results from the use of tannigen in dysentery, the cases comprising only those coming under treatment in the early stages of the disease, and in which the lesions of the intestinal mucosa were comparatively slight. Disturbances of the appetite or gastric functions have never been reported, and the few cases of vomiting observed in small children are attributable either to the fact that the remedy was given in the dry form, or that the vomiting was one of the associate symptoms of the disease.

The size of the dose varies according to the age of the patient and the severity of the disease. It is not necessary, however, to compute it strictly, as the drug is absolutely non-poisonous. It is usually advisable to administer larger doses during the first day, and after the cessation of the diarrhea to continue it for some time in smaller doses. Children up to one-half year should be given 1½ to 3 grains; up to two years, 3 to 6 grains; and older children, 7 to 9 grains. The dose for adults ranges from 7 to 20 grains, three to six times daily. When administered to children it is most advantageously prescribed together with sugar

of milk. Adults may take it in the pure state. As tannigen clumps in warm fluids, and as it is partially decomposed in milk owing to the presence of sodium phosphate, it is advisable to give it to children in a teaspoonful of cool water. Adults may take it dry on the tongue or in wafers, to be followed by a swallow of water. The most appropriate time for its administration is one-half to one hour after a meal, as at that time hydrochloric or lactic acid is abundantly present in the stomach. Patients suffering from anacidity should take a solution of hydrochloric acid after its administration. Occasionally it is useful to combine tannigen with small doses of calomel and 1/20 grain of opium.—*Die Heilkunde,* July, 1900.

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A LETHAL chamber for the destruction of lost dogs has been provided for the Paris pound. Thirty condemned dogs are placed in a cage, which is rolled onto a platform, which, by hydraulic force, sinks about six feet into the earth and is hermetically closed. Carbonic acid gas is turned on, and in the space of forty seconds every dog dies without a struggle.—*Scientific American Supplement.*

A NEW monthly periodical, entitled *Annali de Electricitae Terapia Fiscia,* was begun at Naples, under the direction of F. Piccinino and A. Di Luzenberger, with the present year. The journal will be devoted to "experimental and practical electrotherapy, and all the newer branches of electrotechnics," including such subjects as electrochemistry and electrobiology. Other departments of physical therapeutics, such as massage, aerotherapy, hydrotherapy, phototherapy, radiology, medical gymnastics, and climatology, will also be represented.

THE idea that the waves of light produce a mechanical push, or pressure, was advanced years ago by Clerk Maxwell, but he could only offer theoretical proof. Recently Professor Lebedew, of Moscow, made (*Philadelphia Medical Journal*) an experimental demonstration of the pressure of light. He employs a radiometer resembling the familiar Crookes radiometer, using a larger and more completely exhausted bulb, from which the heating effect that is the principal agent in moving the Crookes vanes is excluded. When the light falls upon the vanes they are driven by it, and the intensity of the pressure thus revealed comes within ten per cent of that calculated by Maxwell. The effect is independent of the color of the light, and directly proportional to its energy.

# THE MEDICAL AGE.

**A Semi-Monthly Journal of Medicine.**

EDITED BY FREDERICK W. MANN, M.D.

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## EDITORIAL ARTICLES.

### THE BLESSINGS OF THE MEAT TRUST.

The effect on general dietetics that might result from the full exercise of its powers by the meat trust is one which has been made more or less generally a matter of comment. The ham sandwiches consumed in Chicago daily are to cost $15,000 more than formerly, and a similar advance in the price of meat generally will, it is supposed, place certain limitations upon the daily average consumption of flesh food.

This probably will not be an unmixed evil. Meat three times a day, which it has been one of the glories of America to boast that she has provided for her poorest citizens, is certainly unnecessary. The pyramids were built on rice and corn, and much of the hard work of the world to-day is done by laborers whose daily quota of flesh food is much less than that which is normally consumed by the American.

The high price of meat will possibly act as a beneficent corrective of many extreme tendencies. The general irritation which accompanies full indulgence of the meat habit, and which ultimately expends itself in uricemia or other organic states, is probably responsible for many of the harsher views of life which prevail at the present day. The cannibal who pushes his desire for meat to somewhat extreme limits is a type of the vigor of thought and action which, though it has after all conquered the world, has been subversive of many of the gentler views of life. The cannibal's method of dealing with his enemies, under the moderating influence of a mixed dietary, becomes something mild, perhaps nothing stronger than the water-cure.

Rational objection may be made to all the views of so-called vegetarians. Man is a mixed eater, and those who restrict themselves to a single class of food will doubtless contribute to the degeneration of the race, if not in themselves, at least in their

offspring. The present high price of meat may, however, teach many who need the lesson that vegetable food can be made into appetizing, agreeable, nutritious, and digestible dishes, and that the individual economy is by no means in any real danger of finding its necessities circumscribed by the avaricious tactics of the meat trust.

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## EDITORIAL NOTES.

### A Deopathic Christopathic Paranoiac Prayer.

Under the above caption the *Alienist and Neurologist* (vol. xxiii, No. 2) quotes from some publication of the "Christian Science" cult the following prayer for a dyspeptic uttered by one of the leading lights of that peculiar order. Gastroenterologists may find in it some food for thought:

"Holy Reality! We believe in Thee that Thou art everywhere present. We really believe it. Blessed Reality, we do not pretend to believe, think we believe, believe that we believe. We believe. Believing that Thou art everywhere present, we believe that Thou art in this patient's stomach, in every fiber, in every cell, in every atom, that Thou art the sole, only Reality of that stomach. Heavenly, Holy Reality, we will try not to be such hypocrites and infidels as every day of our lives to affirm our faith in Thee and then immediately begin to tell how sick we are, forgetting that Thou art everything and that Thou art not sick, and therefore that nothing in this universe was ever sick, is now sick, or can be sick. Forgive us our sins in that we have this day talked about our backaches, that we have told our neighbors that our food hurts us, that we mentioned to a visitor that there was a lump in our stomach, that we have wasted our valuable time, which should have been spent in Thy service, in worrying for fear that our stomach would grow worse, in that we have disobeyed Thy blessed law in thinking that some kind of medicine would help us. We know, Father and Mother of us all, that there is no such thing as a really diseased stomach; that the disease is in the Carnal Mortal Mind given over to the World, the Flesh, and the Devil; that the mortal mind is a twist, a distortion, a false attitude, the Harmatia of Thought. Shining and Glorious Verity, we recognize the great and splendid fact that the moment we really believe the Truth, Disease ceases to trouble us; that the Truth is that there is no Disease in either real Body or Mind;

that in the Mind what seems to be a disease is a false belief, a Parasite, a hateful excrescence, and that what happens in the Body is the Shadow of the lie in the Soul. Lord, help us to believe that all evil is utterly unreal; that it is silly to be sick, absurd to be ailing, wicked to be wailing, atheism and denial of God to say, 'I am sick.' Help us to stoutly affirm with our hand in Your hand, with our eyes fixed on Thee, that we have no dyspepsia, that we never had dyspepsia, that we will never have dyspepsia, that there is no such thing, that there never was any such thing, and that there never will be any such thing. Amen."

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### Alcohol and Tuberculosis.

From the laboratory of Professor Maragliano at Genoa comes a conclusion which is in formal opposition to what has hitherto been known of the action of alcohol in tuberculosis. According to these experiments alcohol, far from being injurious, is useful in preventing the development of tuberculosis. Maragliano's opinion has grown out of some experiments undertaken for the purpose of determining the minimum quantity of serum necessary for neutralizing the action of Maragliano's tuberculin, which is a watery extract of tubercle culture. The investigator has found that the antitoxic power of the serum of alcoholics is much higher than that of other individuals.

# ITEMS AND NOTES.

Typhoid fever in Philadelphia is spreading.

Cancer is increasing in Germany at an alarming rate.

The International Medical Congress will be opened in Madrid, April 23, 1903.

The second Pan-Hellenic Medical Congress will convene at Athens May 17 to 21, 1903.

The total number of cholera cases reported in Manila up to April 13 was 245 cases with 192 deaths.

The seventieth annual meeting of the British Medical Association will be held in Manchester July 29 to August 3.

The Deaconess Home and Hospital at New York has received $60,000 from J. Pierpont Morgan.

Gustav Fock, of Leipsic, has purchased Von Ziemssen's library, which consists of 25,000 volumes.

The Senate of Toronto University has decided to separate the Board of Medical and Dental Studies.

The Congress of French and Foreign Anatomists was held in Montpellier March 23, with Dr. Sabathera as president.

The Royal Infirmary at Aberdeen, Scotland, has received a gift of $150,000 from Lord Mount Stephen.

The International Congress of Electrotherapy and Radiography will convene at Berne September 1 to 6, 1902.

The University of Edinburgh has received $150,000 for the foundation of a professorship in bacteriology.

A large wing will be erected by the Sisters of the Hotel Dieu, in charge of the Hotel Dieu Hospital, Montreal.

The American Pediatric Society will meet at Boston, May 26 to 28, under the presidency of Dr. W. S. Christopher.

Scarlet fever is reported in Chicago as more prevalent and more fatal than at any time during the past twenty years.

The seventeenth annual meeting of the Association of American Physicians was held in Washington, D. C., April 29 and 30.

J. Stuart Horner, the English scientist, has been appointed by the McGill University as its honorary representative in England.

The Free Medical Dispensary of Chicago in connection with the medical schools of that city gave aid last year to 105,939 patients.

The Rush Medical College will introduce coeducation in all branches of the four-years' course with the opening of the summer term.

The Army General Hospital at Presidio is so crowded that patients who are convalescent have been ordered to Fort Logan, Colorado.

According to an exchange, the first visit of pestilential fever to America was in 1702. It was brought from the West Indies to New York by trading vessels.

The University of Pennsylvania has recently received gifts amounting to $20,000. Of this amount $15,000 will be expended in new medical laboratories.

The London Hospital last year treated 13,000 in-patients: there were nearly 4000 minor operations performed, and over 2000 of a more serious nature.

There has been introduced in the New York legislature a bill making it a misdemeanor to employ for any other purpose bottles used for dispensing milk.

The directors of the Children's Free Hospital at Milwaukee are attempting to raise the sum of $25,000 this year in order to erect a hospital as soon as possible.

A petition has been presented to the German Reichstag signed by the physicians of the German Empire, asking for the cremation of those dying from the plague or cholera.

The Barcelona Academy of Medical Sciences offers a prize of 2500 pesetas for the best work in Italian, French, Portuguese, or Spanish on "Comparative Histology of the Fovea Centralis," received before December 31.

Joseph J. Kinyoun, late surgeon of the Marine Hospital Service and director of the Hygienic Laboratory at Washington, has assumed the directorship of the biologic laboratories of the H. K. Mulford Company, at Glenolden, Pa.

The Wistar Institute of Anatomy of the University of Pennsylvania recently received, says the *Philadelphia Medical Journal,* the bodies of two still-born infants, weighing together 16 pounds, joined by a broad ligament connecting at the umbilicus. There was one umbilical cord with one placenta only.

Dr. Armsby, of Philadelphia, has experimentally found, by the respiration calorimeter, says the *Philadelphia Medical Journal,* that a steer loses 4½ ounces a day standing and 6½ ounces a day lying down. Feeding animals, therefore, need a place to lie down. The heat generated in fattening animals is more than they need, so warm stables are unnecessary.

The Fourth International Congress of Gynecology and Obstetrics will convene in Rome under the patronage of the King of Italy from September 15 to 21, 1902. Papers will be presented on the following subjects: (1) Medical indications for interrupting pregnancy; (2) hysterectomy for puerperal infection; (3) genital tuberculosis; (4) surgical treatment of cancer of the uterus. The time assigned to each paper is not to exceed fifteen minutes. Those who intend to read papers are asked to send the titles, and if possible short summaries, to the general secretary before the end of May. Membership subscription, including the right to receive printed transactions of the congress, is 25 lire (about $5).

A representative of the German government has, says *American Medicine,* had a hearing before the Budget Committee of the Reichstag concerning an appropriation for cancer research. He stated that statistics of 12,000 cases seemed to indicate positively the contagiousness of cancer, and mentioned districts where there is recurrent contagion. Since 1892 there has been noted a large increase in the disease, and its occurrence in individuals of an earlier age than formerly. Though women are more liable to it than men, the relative immunity of the latter is decreasing. The government proposes to establish a branch cancer research in Berlin, and to devote two departments of the charity hospital to the treatment of patients.

That insanity is almost unknown among negroes is one of the developments arising out of the investigation into the reason for the great number of insane persons in Massachusetts institutions, it also having developed that the average of curable cases is under twenty per cent. President G. S. Hall, of Clark University, Worcester, Mass., makes this statement: "It has been observed that insanity is almost unknown among negroes

The explanation is suggested that insanity is one of the age-marks of a race, for it is certain that what the world looks on as the newer races of men, such as negroes, because of their only recent remove, comparatively speaking, from the savage state, are not susceptible to mental disorders as the white race, which has run through so many different civilizations and crucial experiences."

In the recent report of the cancer laboratory, University of Buffalo, Dr. Roswell Park (*American Medicine*) says that results of the past year tend to confirm the growing belief in the infectiousness of the disease, and also that it is on the increase. The year's study has embraced the problems involved in connection with parasites as a cause of cancer, and their culture on artificial media. Efforts have been made to acclimatize yeasts, fungi protozoa, etc., to development in living animals and to the foundation of tumors, and also to cultivate parasites from cancerous material on artificial media, and to facilitate their growth and development in animals. Investigations along physiologic and chemic lines have been carried out and many experiments made especially those of a microchemic nature, with the idea of verifying the pathologic work. The examination, comparing, and indexing the work and results of others in various parts of the world have occupied much time.

The large and courageous plan for the establishment of the Harvard Medical School on a foundation that will give it pre-eminence among similar institutions is certain of realization. The gift of $25,000 from Mrs. Collis P. Huntingdon, recently announced in the *Philadelphia Medical Journal,* more than completes the sum of $765,000 required to secure the money offered by John D. Rockefeller, of New York, for the enlargement and endowment of Harvard Medical School. Mrs. Huntingdon's subscription is specifically for the erection of a building in memory of her late husband to be called the Collis P. Huntingdon Laboratory of Pathology and Bacteriology. With Mr. Rockefeller's gift and the pledge made by J. P. Morgan last June to give three buildings at a cost exceeding $1,000,000, an aggregate of $2,821,225 will be available for the use of the medical school What has now been pledged, in addition to the former endowment and property of the medical school, more than equals the $4,900,000 which was estimated to be required for the proper installation of the school on its new site.

That the children of Maine become less keen in observation as they grow older would seem to be proved by a novel test made by Professor Richardson (*Philadelphia Medical Journal*), superintendent of the public schools. He procured copies of uncorrected newspaper proofs and distributed them among the classes, with instructions that the pupils mark the errors. Out of 37 scholars in the ninth grade, an average number of 25 errors were marked. The highest number of these were discovered by a girl aged 12, who found 52 in all. The lowest in this class marked ten errors in the proof. The average age of the class was 14 years. The same proofs were distributed among the sophomore and freshmen classes in English of the High School, and here an average of only twelve mistakes was found, the highest number of forty-three being pointed out by one pupil, and the lowest finding only three errors. The actual number of errors as corrected by a professional proof-reader was forty-one. The difference between the highest number found by the scholars and the proof-reader was due to capital letters used by the author to personify ideas.

Recent experiments made in the Finsen Institute with various metals instead of carbon electrodes have led to a most surprising discovery, namely, that iron gives a spectrum which is enormously rich in chemical rays but almost devoid of heat rays. Utilizing this peculiarity of the spectrum of iron, a Finsen lamp has been constructed the electrodes of which are composed of hollow cylindrical pieces of iron, which are cooled by water circulating inside them. The light produced by the new lamp is very intense; within two minutes a bactericidal effect is produced as great as that produced by the old Finsen light within an hour. The experiments were arranged as follows: A continuous current of five amperes was employed for lighting the lamp, hollow iron electrodes with a central water-cooling arrangement being used. The electric pressure amounted to 40 volts; the distance between the object and the arc-light was 10 cm. (four inches). The light was not collected with a lens. The test microbes were: Bacillus tuberculosis, B. typhi abdominalis, B. cholera asiaticæ, Streptococcus pyogenes aureus, Bacterium coli communis, and gonococcus. Gonococcus and tubercle bacilli were cultivated in 2-per-cent glycerin agar coated with sterilized blood, the other microbes in 15-per-cent nutrient gelatin. Figures are given showing the bactericidal power of the new lamp over the apparatus formerly in use.—*Medical Record.*

FURTHER details of Mr. Jonathan Hutchinson's investigations of leprosy in South Africa are reported. He finds, says *American Medicine,* the disease all over the country, but common in no locality and affecting chiefly the colored races, but existing among the Dutch farmers, among whom it was probably a new disease 150 years ago, when first recognized near Cape Town. Since that time it has spread gradually over the whole British territory, including the Transvaal and the Orange Free State. It appeared first in Natal sixty years ago, but in Zululand it is almost unknown. The disease spreads in Hottentot and Kaffir kraals, where it is generally introduced by some laborer who has brought the disease with him from Cape Town, but does not spread in leper asylums or in civilized communities where care and cleanliness prevail. He considers that it is communicated by eating food contaminated by a leper's hands, and that the primary cause of the disease is the ingestion of badly-cured salt fish. He holds that the fish-canning establishments should be looked after at once.

THE fourth annual meeting of the Italian Medical Congress was held in Rome March 20, under the presidency of Dr. Fortunatu. At this meeting, according to the *Philadelphia Medical Journal,* Professor Celli described the results of the study of malaria during 1901. The epidemic in 1901 was milder than that of the year preceding. Estivo-autumnal parasites were found in every part of Italy, more severe in Southern Italy. In Northern and Southern Italy milder malaria occurs, generally tertian; the quartan fever is the most scarce and the most uniformly observed. Recurrence after long intervals in spite of all treatment is characteristic of malaria in Italy. The Anopheles is never absent. There are numerous places with paludism and anophelism in Central and Northern Italy absolutely without malaria. Severe tertian fever is precisely estivo-autumnal; mild tertian develops first in the spring; the quartan is principally autumnal. Dr. Caccini observed true quotidian fever. Even with treatment in the preëpidemic period the development and extension of malaria could not be prevented, yet when quinine bisulphate and hydrochlorate were given prophylactically, out of 208 persons barely two per cent of cases occurred. Mechanical prophylaxis, especially in the protection of houses, gave brilliant results. Quinine in the future will be given gratuitously and abundantly by employers to workmen.

The Section on State Medicine at the Saratoga meeting will have for its principal features the following: A symposium on tuberculosis, with especial reference to the prevention and restriction of this disease; a symposium on vaccination and smallpox—the production of vaccine, limitations of the glycerinated lymph, characteristics of the present smallpox epidemic, differential diagnosis, etc.; a symposium on pneumonia, influenza, and scarlet fever in their relations to the public health: (*a*) contagiousness of pneumonia, increasing prevalence and fatality of the disease, duties of the profession and of the health officers in connection therewith; (*b*) influenza as a factor of mortality during the last decade; (*c*) etiology and prophylaxis of scarlet fever, identification of the causal microörganism, and steps toward antitoxic serum.

The American Congress of Tuberculosis will hold its third annual session at the Hotel Majestic in New York City, May 14, 15, and 16, in joint session with the Medicolegal Society. Besides the papers of a miscellaneous nature which are to be read, four symposiums have been arranged on the following subjects: (1) Preventive legislation, embracing the social, municipal, and State aspects of tuberculosis; (2) tuberculosis in its pathologic and bacteriologic aspects; (3) the medical and surgical aspects of tuberculosis; (4) the veterinary aspects of tuberculosis. Each symposium will occupy one session of the congress. The Earl of Minto, Governor-General of the Dominion of Canada, has accepted the position of honorary vice-president of the American Congress of Tuberculosis, and states that that government will be represented by delegates. There is a proposition to have a museum in connection with the sessions, as the great feature of the London Congress last June was its fine museum. All curators of colleges and museums, or of medical schools or societies, and all members of the profession in the United States, the Canadas, or in South or Central American countries, who are willing to lend or contribute specimens, drawings, or contributions to such a collection for the use of the congress, will please at once communicate directly with Dr. H. Edwin Lewis, chairman Committee on Museum, at Burlington, Vt., specifying contributions, so that the same may be catalogued and the catalogue presented in advance of the session. The enrolling fee, including the right to receive the Bulletin of the Congress of 1902, will be $3.

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# NEW PUBLICATIONS.

## CHILDBED NURSING.

This little book has grown out of a manual prepared for the Nurses' Training School at Long Island College Hospital. It has been rewritten and new matter added, so that it now serves as a text-book of more extended application. The author's well known reputation as an obstetrician will secure for this little book a reception at the hands not only of nurses, but of mothers and all interested in obstetrics.

Manual of Childbed Nursing. With Notes on Infant Feeding. By Charles Jewett, A.M., M.D., Sc.D. Fifth Edition. New York: E. B. Treat & Co.

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## GYNECOLOGY.

The admirable series of year-books in the Practical Medicine Series have been enriched by the number summarizing the most noteworthy addition made to gynecology during the last eighteen months. These volumes are published in the interest of the general practitioner, and contain a condensed epitome of all modern advances in the various special subjects of which they treat.

Gynecology. The Practical Medicine Series of Year-Books. Volume IV. Edited by Emilius C. Dudley, A.M., M.D. Chicago, Ill.: The Year-Book Publishers.

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## FIRST-AID MANUAL.

This is an excellent manual of first aid. It tells in easily understood terms exactly what should be done to save life and limb, on the part of those into whose hands the injured may fall. It will be useful for factories, railroads, and mines, and all places where injuries are apt to be common occurrences.

Johnson's First-aid Manual. Illustrated. Edited by Fred B. Kilmer. New Brunswick, N. J.: Johnson & Johnson, 1901.

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# THE PROGRESS OF MEDICAL SCIENCE.

## SURGERY.

### Perineal Prostatectomy.

John B. Deaver (*Philadelphia Medical Journal,* April 19, 1902) says that perineal prostatectomy is an operation which seems founded upon sound principles. It is sound anatomically, because the posterior portion of the prostatic urethra is removed, thus allowing easy access to the new growths which are the cause of obstruction. The base of the bladder and the internal sphincter are not damaged; free drainage is secured; the capsule of the gland is left, to which the supports of the bladder are in a great measure attached; and, above all, the entire seat of the trouble and all new growths are certainly and radically removed, assuring us that if the patient recovers from the operation he will have no further trouble from this disease. Septic cystitis, unless pre-existing, is extremely unlikely to follow, both because the base of the bladder is not injured and also on account of the immediate establishment of free drainage. Even the ever-present danger of the sudden relief of a distended bladder may be obviated if we are careful not to encroach upon the internal sphincter.

Of course, this operation is a very extensive surgical procedure, and in cases seen late, as in many other surgical conditions, the choice must be carefully made between a radical and a palliative operation.

The removal of the prostate through the perineum is carried out in the following manner:

A sound, or Ferguson's prostatic depressor, one sufficing as well as the other, is introduced into the bladder and so held by the assistant that the convexity of the curve of the instrument presses the prostate to a degree to offer sufficient resistance to the operator's finger, which makes the enucleation easier by not allowing the gland to recede, which it will do after severance of the fascial capsule from the posterior layer of the triangular ligament. The incision is carried in the median line of the perineum, exposing the accelerator urinæ where it covers the bulb. The dissection is then confined behind the bulb, exposing consecutively the anterior layer of the triangular ligament, membranous urethra, posterior layer of the triangular ligament, the fibers of the levator ani muscles in relation with the lateral lobes of the prostate, and the prostate enveloped by its capsule. By careful dissection, chiefly with the fingers, the edges of the wound

being well retracted, the fibers of the levator ani attached to the side of the prostate are displaced, and in this wise the gland well exposed. Incisions are made through both capsules over each lateral lobe in a line parallel to the urethra, and the lateral lobes enucleated through them. The median lobe can usually be enucleated through one or the other of these incisions, but the third incision between the first two may be necessary. It is important that these incisions through the capsules be parallel to the urethra and so parallel to the course of the blood-vessels, as hemorrhage is thus avoided. Either edge of the capsule is grasped with long hemostatic forceps and the enucleation made in the direction of behind forward from base to apex: first removing the right lateral, then the left lateral lobe, and finally the posterior commissure. The posterior commissure can often be removed by biting forceps; the removal of the latter necessarily opens up the prostatic urethra, the dissection of the same being confined to the floor.

The operation is completed by the introduction of a soft catheter into the bladder through the prostatic urethra, and if there be oozing to any degree the capsule is packed very lightly with sterile gauze. Having opened the prostatic urethra, it is well to introduce the finger into the bladder and explore for the purpose of excluding stone; at the same time the operator is able to determine the condition of the pubic commissure of the gland, and if there is an overgrowth giving a shelving margin which would project into the bladder, this can be reduced by one or the other variety of forceps. The subsequent treatment is practically that carried out after extensive perineal section for stricture of the urethra.

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## The Effect of Osteitis of the Knee on the Growth of the Limb.

H. L. Taylor (*New York Medical Journal,* April 19, 1902) says that osteitis in childhood usually causes lengthening of the affected limb when approximately straight, and this may persist for eight years or more.

This lengthening is mainly due to overgrowth of the femur, and may often be detected within six months of the onset. In adolescents and adults, after cessation of active disease begun in childhood, the femur and the limb may be considerably shortened.

The tibiæ are usually equal in length in the early stages; afterward the affected tibia may be slightly longer for a time, but it is more often shorter, even in the first two years; this

shortening increases in the older cases, and after subsidence of inflammation.

With limbs of equal length and a duration of disease of several years, the femur of the affected side will be found longer, the tibia shorter, than its mate.

The feet and patellæ show a difference in favor of the sound side after a year's duration, and often before.

Stimulation of growth at the lower end of the affected femur, and more rarely and in less degree at the upper end of the tibia, is usually accompanied by retarded growth in other parts of the limb; growth in the femur itself is finally retarded, and the final result after many years may be considerable shortening of the femur, tibia, and limb.

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### Fistula in Ano: Its Relation to Phthisis.

S. R. Grant (*International Medical Magazine,* April, 1902) says that tuberculous fistula of the anus is usually secondary to phthisis. Pulmonary tuberculosis is rarely, if ever, secondary to anal fistula before or after operation. The writer says that tuberculosis of the anal regions should be dealt with as radically as when it attacks other organs. When the patient's condition permits we should operate on fistulæ irrespective of kind, and should not decline operation in persons suffering from chronic phthisis, nor in those who give a family history of tuberculosis.

Patients operated on for tuberculous fistula complicated by phthisis, and patients who are non-tuberculous but suffer from some involvement of the lung, and who rapidly decline and die after the operation, do so from inflammation of the lungs induced by the anesthetic, especially ether. Grant says that such accidents have not followed operations in his practice where local anesthesia was employed. The writer says we are justified in discarding the teachings of writers who teach that the cure of a fistula will result in the development of phthisis.

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### A Service View of Hernia.

E. F. Robinson (*Journal of the American Medical Association,* April 5, 1902) has from his experience with hernia among the soldiers in the Philippines drawn the following conclusions: (1) Additional care should be exercised in the enlistment of men with absolutely sound abdominal walls, and they should not

be over weight. (2) Regular exercise should be insisted upon with troops in the tropics, even during so-called "field service," that the general physique may remain above par. There is too great a tendency among officers and men in a tropical country to relax all form of physical exercise, and to think, because they are in the field, such is not necessary. (3) The old abdominal cartridge belt should be replaced by some form of belt, if necessary, by which the weight is swung from the shoulders and the abdominal muscles are not restricted. (4) General attention should be given to hygiene, and the avoidance of the causes of disease in general is, of course, an important factor in preventing hernia. (5) Early operation is advised in all cases of inguinal and femoral hernia.

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### The Nature of Prostatic Hypertrophy.

R. H. Green and H. Brooks (*Journal of the American Medical Association*, April 26, 1902) says that the former belief that prostatic hypertrophy was due to atheromatous conditions of the blood-vessels is erroneous; that the purely myomatous or fibrous form of prostatic hypertrophy is extremely rare, as is being shown by unanimous conclusions, resulting from investigation, by Motz, Albarran and Halle, and Ciencanowski.

Motz, Albarran, and Halle consider that proliferation of the cells of the glandular portion of the prostate, either alone or mingled with changes in the stroma, plays the most important part in the hypertrophy of the gland.

Albarran and Halle do not dispute the fact that a chronic inflammatory process furnishes the phenomena presented, but lay special consideration on conditions found histologically in a large portion of the prostates examined by them—fourteen out of a hundred—and which they consider are either cancer in the prostate or a sort of a product midway between inflammatory and cancerous tissue.

Ciencanowski in his very exhaustive studies of the prostate considers hypertrophy the result of a chronic inflammation of the organ, the original seat of which can always be found if searched for long enough by means of a large number of sections. According as the original focus of the inflammation is in the periphery or in the center of the organ, a corresponding form of prostatic hypertrophy or atrophy will be present.

The writers have from their investigations drawn the following conclusions:

1. Prostatic hypertrophy of the aged is the result of chronic prostatitis.

2. It most frequently arises from chronic posterior urethritis, of whatever cause.

3. True neoplasms of the prostate are rare and are not concerned in the production of prostatic hypertrophy.

4. Carcinoma is apt to occur in the hypertrophied prostate as a result of the chronic inflammatory process.

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## MEDICINE.

### Rheumatic Appendicitis.

W. A. Edwards (*American Medicine,* April 12, 1902) says that the testimony of observers is almost unanimously against the existence of a condition styled rheumatic appendicitis. The writer says that the present state of our knowledge does not warrant the use of the term rheumatic appendicitis. There seems to be but two conditions in which rheumatism can at all be considered in etiologic relation with appendicitis, and these are when a rheumatic endarteritis of the single appendicular artery exists and the blood-supply is greatly diminished thereby. It seems to be pretty well conceded that the entrance of fecal matter of itself does not necessarily give rise to appendicitis, but it is probable that the inflammation may have its origin in the microörganisms conveyed to the interior of the organ by the fecal matter. Even if rheumatism is an infectious disease, and the infection is due to staphylococci, whose seat is in the gastrointestinal tract, it may be probable that the feces in these cases are unusually toxic, but this again is far from proved, so that when considering a so-called rheumatic appendicitis we must resort to the old Scotch verdict, "Not proven."

The writer quotes verbatim Finney's and Hamburger's conclusions; they are: "There seems occasionally to be an intimate relation between polyarthritis and appendicitis. There may or may not be a family history of rheumatism. It is important to note that the articular disease may or may not precede as well as accompany or follow the appendicular inflammation. Otherwise, one might deny any etiologic relation and incline to the view that an intercurrent affection like appendicitis, or a trauma such as is involved in an operation, had called into activity a latent rheumatic infection. It is well known that an acute disease or a trauma may provoke an attack of gout, and postoperative and post-traumatic malaria are quite familiar to us. The articular disease under consideration may present all gradations from simple

pain to an inflammation which entirely corresponds to the picture of rheumatic fever. However, it is not all rheumatism that inflames a joint. The question arises: Are these examples of arthritis true rheumatism or analogues of the pseudorheumatic affections, such as gonorrheal, scarlatinal, and dysenteric arthritides? Unfortunately, there is as yet no criterion by which to judge the rheumatic nature of a joint affection. The history of hereditary and individual rheumatic antecedents, the absence of a definite etiologic factor, and the course of the polyarthritis, are often the only tests we have. Applied to the polyarthritis associated with appendicitis, these tests are satisfactorily enough fulfilled, and until more definite knowledge of the cause of rheumatism is acquired, this polyarthritis should be regarded as rheumatic. It is equally reasonable to assume that the appendicitis in these instances is a rheumatic manifestation, in view of the proof adduced in the case of influenza and the collateral support afforded by the production of appendicitis by infecting the blood of animals.

"Therefore, we conclude as we began: 'For purposes of treatment, appendicitis is rightly regarded as a local disease, subject to serious accidents readily explained by anatomic and bacteriologic factors. The inflamed appendix is a menace to the general peritoneal membrane, and hence to the life of the patient.' Every variety of appendicitis is to-day essentially a surgical disease, the legitimate and grateful domain of surgical art."

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### Agreement Between the History of Yellow Fever and its Transmission by the Culex Mosquito (Steogomyia of Theobald).

Chas. Finlay (*Journal of the American Medical Association,* April 19, 1902), who has made an exhaustive study of the subject in regard to its etiologic and historic considerations, says that the epidemic foci of yellow fever in America, from the pre-Columbian times to the beginning of the seventeenth century, were comprised within a zone between the twentieth and the eighth or ninth parallels of north latitude, reaching, toward the east, as far as the Leeward Islands, and limited toward the west by the Atlantic coast of the American continent. During the seventeenth century, that zone extended farther north, up to the twenty-third parallel, and southward to the parallels of Bahia and Pernambuco. Finally, in 1850, it reached Rio de Janeiro.

The transportation of mosquitoes of the yellow fever species,

in sailing vessels, appears to have been of frequent occurrence ever since the early times of the discovery of America. To it must probably be attributed the coincidence of the severe epidemic of the so-called "modorra pestilencial" in Santo Domingo, in 1494, with another very fatal epidemic of the same name in the Canary Islands the same year. Apart from the conveyance of contaminated mosquitoes, healthy ones must have been frequently imported into subtropical countries, where they are found now to exist, having acclimated themselves to their new abodes. This is known to be the case in Italy, in the south of Spain, and coasts of the Mediterranean, as well as in the south of the United States and in other countries. The previous existence of the yellow fever mosquito must be considered, *per se*, to constitute a dangerous complication whenever a case of yellow fever happens to be introduced in a place usually free from that infection.

The range of the Andes and its prolongation along the Isthmus of Panama and Central America appears to have stood as a barrier, protecting to some extent the western coast of America against the migration of contaminated mosquitoes. That obstacle, however, is about to disappear when the Panama or the Nicaragua canal comes to be opened; let us hope, therefore, that by that time, through the joint efforts of all the nations interested, all the existing foci of the disease will have been extinguished and that the adoption of measures, similar to those which have proved so successful in the hands of our sanitary department, will henceforth provide reliable means for controlling the propagation of yellow fever.

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### The Bacillus Coli Communis in Human Infections.

The bacillus coli communis is, according to A. J. Lartigan (*Journal of the American Medical Association*, April 12, 1902), widely distributed in the normal body and in nature. It is usually present as a saprophyte in all parts of the alimentary canal, and may also be present as such in the lower portion of the common bile-duct, on the skin, especially in the neighborhood of the mouth and anus, and in the anterior portion of the urethra and vagina.

The bacillus coli communis may, under what seem to be normal conditions, be carried during life from the intestine to healthy viscera. This invasion takes place from the intestine into the abdominal viscera, more especially the liver and the kidneys, through the portal circulation. It is possible that similar invasions may take place from other parts, especially the mouth,

pharynx, etc. Further, it is probable that under similar conditions to which these invasions occur, bacteria may sometimes reach the systemic circulation.

Agonal and post-morten invasion of the tissues of the body is common, occurring with great frequency under the most diverse circumstances with or without apparent lesion of the mucous membrane of the intestine.

The virulence of the bacillus coli communis is influenced by at least two factors: (1) change in the physiologic activities of the intestine; (2) growth in new host environments.

The rôle of this organism as a primary inciting factor in infection is infrequent. It is as a secondary invader of tissue previously occupied by microörganisms, or of tissue already injured from other causes, that it claims our chief attention.

The bacillus may induce inflammatory lesions, mainly suppurative, in the body tissues generally; the infection may originate in the intestine.

Its rôle in acute inflammatory lesions of the intestine, more particularly of the appendix, peritoneum, and urinary passages, has been generally overestimated. Whilst it may be the primary inciting factor, other organisms usually take this part, the bacillus coli communis more commonly acting as an accessory factor.

It is a factor of importance in the excitement of cholelithiasis.

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## A Phenomenon Observed on the Tongue in Acute Malarial Infection.

L. Lofton (*New York Medical Journal*, April 12, 1902), who has had a very extended experience with malaria in the South, describes a condition of the tongue which he states always exists in connection with acute malarial poisoning, and which he claims to be pathognomonic of the disease. This condition presents, according to Lofton, upon exhibition of the tongue, one or more (generally two) dark lines running from the base of the organ to the apex, and usually separated by a clearly defined tract of clean mucous membrane about one-sixteenth to one-eighth of an inch wide. These lines are pyramidal in appearance, and begin among the large papillæ at the base of the tongue. They vary in width, and may be from one-eighth to one-quarter of an inch wide, gradually coming to a point in the middle of the tongue. In color they resemble the stain of a ten-per-cent solution of potassium permanganate that has been exposed to air for some time. They are quite different from the discoloration seen in

users of tobacco and snuff, and when once carefully noted are easily recognized in future. This condition will most likely be found from one day to two weeks after exposure or inoculation. It remains in some individuals longer than in others, notably in a negro. It is more beautifully defined from six to twelve hours after the initial sporulation, and remains until the system is thoroughly cinchonized. Purgation alone, so far, has failed to relieve the condition, for the gamut of drugs has been run in this connection time and again. Only one line will be found more often in the colored man than in the white.

Lofton adds that where this peculiar condition of the tongue exists, we may rely upon eliminating the malarial poison in short order if the case is taken in hand within forty-eight hours. If procrastination is practiced, as a rule a protracted illness results.

In conclusion the author states that out of several hundred of these cases as primarily seen, but few have had any rise of temperature until from twenty-four to thirty-six hours have elapsed.

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### Dry Points vs. Glycerinated Virus from a Bacteriologic Standpoint.

M. J. Rosenau (*American Medicine,* April 19, 1902), director of the Hygienic Laboratory, U. S. Marine Hospital Service, Washington, D. C., found upon the examination of forty-one dry points an average of 4807 bacteria per point; of fifty-one glycerinated tubes and capsules he found an average of 2865 bacteria per vaccine. This, Rosenau says, is in excess of what a good vaccine should contain. This difference in numbers does not justify the confidence placed in the glycerinated virus over the dry points as found upon the market, judging from the limited number of accounts made. So far as the kinds of organisms are concerned he found pus cocci in both the dry points and the glycerinated virus. He says he thinks it has been demonstrated that some of the glycerinated virus on the market is "green"—that is, not kept a sufficient length of time before it is sold. From his studies he has concluded that we ought not to discredit glycerinized virus, for he considers the superiority of the virus amply demonstrated, but condemns the practice of manufacturers who place an unripe product on the market. Much of the vaccine sold must have a high initial contamination to contain an average of 2865 bacteria per tube, and it is evident that too great a reliance is placed on the glycerin.

### A Contribution to the Study of the Presence and Formation of Agglutinins in the Blood.

Ruffer and Crendiroponlo (*British Medical Journal*, April 5, 1902) make the following conclusions: (1) The culture of a microbe freed from that microbe by filtration, dialysis, or centrifugalization has a distinct though feeble agglutinating effect on that particular microbe. The age of the culture and the constitution of the medium are important factors in determining the quantity of agglutinins present in such cultures. (2) The red blood-corpuscles of non-immunized and immunized animals contain no trace of agglutinins. (3) On the other hand, the polynuclear leucocytes of non-immunized animals always possess an agglutinating power greater than, or more rarely equal to, that of the serum. They may therefore be rightly considered as the producers, or at any rate the carriers, of the agglutinins. (4) In immunized animals the specific agglutinins appear in the polynuclear leucocytes and are therefore probably formed in them. The quantity of agglutinins begin to increase thirty to forty-eight hours after the injection and goes on increasing up to the tenth day or thereabouts. They then pass into the serum, the agglutinating power of which increases correspondingly. (5) The formation of specific agglutinins in polynuclear leucocytes and in the serum is preceded and accompanied during the first three or four days after the inoculation of a given microbe by an increase of agglutinins for other microbes. The latter increase is of short duration and stops suddenly, whereas the increase of specific agglutinins persists for a much longer time.

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### The Comprehensive Study of Thoracic Phthisis.

F. T. Roberts (*Lancet*, April 5, 1902) says that there is temporary interference with the action and functions of the respiratory organs, by consolidation and associated changes, or by pleural effusion, which afterward clears up. These may occur at an early period or during the course of a case, and for the time being are often serious. The heart may also be more or less disturbed in its action by such conditions. There is absolute destruction and consequent uselessness, either of a limited area or of extensive tracts, of the pulmonary tissues, thus permanently impairing in various degrees the respiratory function. Even when the physical process is arrested after cavities have formed, and the fibrosis has taken place, the involved portion of the lung

can be of no further service, though other parts of the organ may take on compensatory work. Morbid products of different kinds are formed, often purulent and of a wasting or exhausting nature, and usually discharged as expectoration. Any kind of pleural effusion which has to be removed again and again, as well as empyema, also deserves mention under this head. There is formation and absorption of toxins or other deleterious products associated with tubercle bacilli, tubercle and its charges, pneumonia, suppuration, etc. It is to these agents that the pronounced general and remote effects of thoracic phthisis appear to be mainly due; no doubt this is a most important pathologic aspect of the disease. Physical embarrassments of different kinds occur, the morbid conditions producing them not being in themselves of an active or serious nature, but being often of much consequence from this point of view, as exemplified by fibrotic changes, extensive pleural adhesions, pericardial adhesions, rigidity of the chest wall, and great muscular wasting. These conditions often materially interfere with breathing power as well as with the acts of coughing and expectoration. They may also embarrass the heart, obstruct the venous circulation, or interfere with particular veins, tubes, or nerves. There occur accidental lesions, usually grave in themselves, especially hemorrhage and pneumothorax, for which certain phthisical lesions afford highly favorable conditions. In not a few instances the pathologic effects just indicated are more or less combined in the same case of thoracic phthisis. It must never be forgotten, however, that in this disease other structures are often—indeed, it may be said usually—affected and contribute more or less to its clinical manifestations. Without entering into any discussion it must suffice to state that these remote lesions are either of a tuberculous nature, are well-known secondary non-tuberculous results of phthisis, or belong to the category of accidental or independent complications or complaints.

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## THERAPEUTICS.

### On Some Urinary Infections, with Especial Reference to Their Treatment by Urotropin.

J. O. Symes (*Bristol Medico-Chirurgical Journal*, March, 1902) says that urotropin in bacilluria has a speedy and permanent curative action, because here the microörganisms are swimming in the urine, which is acid when excreted, and remains

so throughout the duration of the disease. In pyelitis and pyelonephritis on the other hand, although urotropin generally relieved the symptoms, in none of the cases, tubercular or non-tubercular, seen by Symes, did a cure result. The chief reason for this undoubtedly is that in these cases the invading organisms are deeply embedded in the tissues, and so cannot be reached by the drug. Another possible reason may be that in acute pyelitis and pyelonephritis, the urine is sometimes alkaline, and the complex antiseptic body, which Cammidge describes as only being formed with acid urine, is consequently not present.

The best results with urotropin are seen in cases of cystitis secondary to enlargement of the prostate, probably because in such cases the urine on leaving the kidney is acid, and the bladder walls are not deeply penetrated by bacteria. The antiseptic body formed by the urotropin first inhibits the growth of and then kills the bacteria, which gives rise to the alkalinity of the urine; and the bladder, freed from this source of irritation, will, if the drug be resumed from time to time, remain permanently in good working order. Presumably cystitis secondary to stricture of the urethra would give equally favorable results.

Cases of cystitis secondary to gonorrhea do not, in the author's experience, do well on urotropin. The symptoms are relieved, and the patient continues to take the drug because of the relief; but in two cases under his care, in both of which the urine was originally alkaline, it was possible to detect organisms in the acid urine after the drug had been taken more or less steadily for in one case five and the other six months. Cessation from urotropin in such cases generally means a return of the symptoms.

Cystitis due to the bacillus coli, accompanied with acid urine, such as is seen so frequently in women, does not yield readily to urotropin, probably because this organism is peculiarly resistant to the drug. Symes has found freely motile bacilli in the urine of a patient suffering from vesical coli infection, who for twelve days previously had been taking ten grains of urotropin three times a day.

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### The Use of Suprarenal Gland in Therapeutics.

Since the experiments of Brown-Sequard, Abelous and Langlois, and others have established the function of the suprarenal capsules, it has been proposed, says M. Brune (*International Medical Magazine,* April, 1902), to apply their very curious properties to the treatment of various diseases. In the way of general therapeutics, Holzner has treated a number of children

with a rachitic taint with suprarenal extract and noted that, under the influence of this medication, the general condition became rapidly better. The sweats, vasomotor irritability, and the craniotabetic phenomena diminished noticeably; dentition became more regular, and its progress more easy. Doufour and Roques (of France) have treated grave neurasthenia successfully with the suprarenal extract. Grünbauer has utilized the vasoconstrictor properties of the gland by employing it as a hemostatic in cases of gastrointestinal hemorrhage. Florsheim has applied the suprarenal extract to the treatment of certain respiratory affections: asthma, acute tracheobronchitis, bronchiectasis, pulmonary congestion and edema, etc. Recently Peters has concluded, from some careful observations, that the suprarenal extract may be relied upon to combat the pains of some ulcerating cancers and may advantageously replace morphine, whose disadvantages it does not share.

It is not only in general therapeutics that there have been experiments upon the properties of suprarenal gland; in ophthalmology its use has been recommended by a number of authors. The experiments of H. Bates, repeated by Dor, have established the vasoconstrictor power of the aqueous extract or the dry powder of the sheep's capsule. In two or three minutes a drop of the aqueous extract, 1 to 100, instilled into the conjunctiva, provokes a profound anemia of the whole surface of the globe of the eye. All the conjunctival vessels disappear, the sclerotic becomes a clear white, and the whole eye takes on a livid aspect. This ocular anemia lasts for a greater or less length of time, according to the individual and the dose instilled; but it is constant. Upon diseased eyes the duration of the effect is the less the more hyperemic the eye, but even an intense congestion will disappear after some minutes, more or less, under instillations of suprarenal extract repeated two or three times.

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## The Dietetic Treatment of Measles.

L. Fisher (*Medical Record*, April 12, 1902) says that if a nursling is affected, breast milk is the only form of diet. If a bottle baby is affected, the greatest care must be exercised in the feeding, owing to the subnormal condition of its stomach. The moment gastric symptoms, such as vomiting or diarrhea or anorexia, are marked, a greater interval between the feeding periods should be given. In addition thereto a smaller quantity of food should be administered. If, for example, an infant, while in health, receives a six-ounce bottle of milk, it is wise to

give but four ounces, or even three ounces, according to its appetite.

When violent gastric symptoms prevail, in spite of all precautions, absolute rest of the stomach must be enjoined. In the interim, rectal feeding may be necessary to sustain life until the gastric irritability has passed away. In older children, who have taken milk for thirst, buttermilk may be substituted with advantage. Buttermilk has a very laxative effect; it will also quench thirst and is very nutritious. Concentrated food, such as cream and butter, owing to their nutritious character, should be administered. Thus a small quantity of cream rather than a large quantity of milk, if the stomach will tolerate it, will be beneficial. Soups, broths, eggs, and paps, of oatmeal and milk and farina and milk, are indicated. In older children, calf's-foot jelly, chicken jelly, raw scraped steak, and oysters, in addition to broths and milk and cream, may be allowed. Fruit and fruit-juices may be given *ad libitum*.

The convalescence of the patient, and the restoration of the body to its normal state, will depend on the nutrition rather than on the amount of drugs poured into the body. Subnormal conditions must be restored to their normal state. Insist on feeding per mouth if possible, per rectum when necessary, and then, and then only, can we hope for the resolution of what the author considers one of the most dangerous of infantile diseases.

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### The Treatment of Pneumonia.

G. M. Redmond (*Scottish Medical and Surgical Journal*, April, 1902) maintains that in the treatment of this disease no routine drug treatment is of any practical value. Antipyretic drugs and all depressing lines of treatment are especially to be avoided. This includes nauseating drugs, such as tartar emetic and even digitalis; the latter depresses indirectly, because it causes impairment of appetite and nausea (if not actual vomiting), and so interferes with nutrition, and this again leads to heart failure.

A supporting and, in the widest sense, stimulating line of treatment will generally be attended by the best results. Alcohol should not, however, be prescribed in a routine way; when it is clearly required by the state of the pulse (especially), the temperature, and the tongue, it is invaluable, and the quantity given should be in proportion to the intensity of the conditions calling for its use. Patients with unimpaired constitutions, and especially the young, generally need none, and are better without it.

For relief of the pain in the side, nothing is so good as leeching.

In presence of high temperature, refrigeration to the surface by the ice-bag locally or by cold water generally is desirable; the latter is specially indicated, and should be applied vigorously if delirium is a complication.

In the case of vigorous subjects, where cyanosis is present and there is obvious engorgement of the right heart, general blood-letting may with propriety be practiced.

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## The Treatment of Pneumonia.

In the *Medical Record* of April 26, 1902, Dr. S. S. Burt, of New York, publishes an able article with the above title. He decries the use of so-called specifics in this infection and considers that at best a tonic treatment is the sort required, together with possibly the use of an iodide, not as a specific, but as an intelligent means of favoring cell activity and the extrusion of morbid accumulations. A recapitulation of his ideas as stated in his article are quoted below.

Pneumonia primarily owes its shortness and self-limitation to the perishability of its micro-parasite; the type of the disease depends upon the condition of the individual; pneumonia simply as pneumonia requires no interference; diplococci thrive best at the normal human temperature; fever inhibits the growth of the parasite and is therefore beneficial; high fever indicates extensive infection, meantime varying degrees of reactive ability; low fever either inability to react or else moderate infection; specific medication is unnecessary in pneumonia, if not pernicious; it is imperative to disinfect dejecta and expectoration; aconite and its congeners are injurious, bleeding is seldom required; opium, checking renal activity, in large doses is contraindicated; in old persons opium is exceedingly dangerous; oxygen is useful but not indispensable; alcohol is valuable as food, and it conserves energy; strychnia, ammonia, alcohol and nitroglycerin in large doses, as stimulants, should be reserved for emergencies; subcutaneous infusion of a physiological saline solution is invaluable for renal elimination of poisonous accumulations; last, though not least, specific remedies at best are but makeshifts, prevention of infection is the desideratum.

## RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

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### Pregnancy and Laryngeal Tuberculosis.

Kuttner, of Berlin, deserves credit for a thorough investigation of this subject. A report of his work is published in Fraenkel's *Archiv für Laryngologie und Rhinol.*, Bd. xii, Heft 3. In the literature there have been hitherto reported seven cases by four authors bearing on this subject, cases in which laryngeal tuberculosis and pregnancy occurred simultaneously.

The material collected by Kuttner consisted of fifteen accurately described cases, and an additional ten or twelve concerning which exact details could not be given. Hereditary predisposition could not be determined in all the fifteen cases. In three cases primary pulmonary tuberculosis had been apparent before the pregnancy began; in the other twelve there had been no, or at most only the slightest, involvement of the lungs prior to pregnancy. The laryngeal involvement occurred before conception in one case, appeared during the sixth month in two cases, and in twelve cases during the last half of pregnancy. There was no difference in the phenomena in primiparæ and multiparæ.

Of the children born of these pregnancies, all were alive at birth, and eight have died, some just after birth. The others were lost sight of.

The fifteen women nearly all died just after parturition, the latest two months later, although pregnancy and parturition followed a normal course in all the cases.

Local treatment of the laryngeal condition was in every case without success, and no spontaneous improvement occurred in any case during pregnancy.

The author concludes that in women whose condition is hopeless the larynx treatment should be about the same as in ordinary cases, tracheotomy being undertaken when indicated.

Where the patient's general condition is good and the larynx lesion slight, the author recommends only expectant measures. Should the local trouble suddenly increase in severity with diffuse infiltration, he suggests tracheotomy and the induction of premature labor. The earlier the pregnancy is interrupted the better are the chances for the mother. It is wise in advanced cases of laryngeal consumption to perform tracheotomy before the labor, or at least to be prepared to do the operation in order to avoid sudden asphyxiation during parturition.

### Present State of Rhinology in the Matter of Ozena.

Pelaez, of Granada, in an article of considerable length (*Journal of Laryngology,* vol. xvii, No. 2) gives a clear statement of the present condition of our knowledge regarding ozena.

The author contributes a useful review of the work recently done, chiefly on the Continent, in the investigation of the causes of ozena, but does not offer any solution of the question himself. He disputes the bacillary theory of Lowenberg, Abel, Cozzolino, and others, and considers that it falls to the ground, or at any rate loses much of its value, in view of the fact that, notwithstanding its "copious flora," ozena has not been reproduced either by inoculations with cultures of the organisms discovered, or with the more or less decomposed secretions themselves. An account of the more recent methods of treatment is given, but the author admits that no specific has yet been found.

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### Laryngeal Affections Associated with Pregnancy.

Pezedboiski (*Monatsschrift für Ohrenheilkunde,* vol. xxxvi, No. 1) gives a record of some fourteen cases in which pregnancy was complicated by affections of the larynx, varied in character. There was of course no means of determining the real relationship between the two conditions, but the writer holds to the opinion of other authors, that there is a more or less intimate connection and causal relationship.

The cases recorded were of the following character: (1) Paresis of laryngeal adductors; (2) paralysis of the posticus muscle; (3 and 4) paralysis of nervous laryngis recurrens; (5, 6, 7, and 8) hemorrhagic laryngitis; (9 and 10) subglottic laryngitis; (11 and 12) tracheal ozena; (13) primary laryngeal tuberculosis; (14) laryngeal polyp.

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## OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

### Tuberculosis and the Organ of Hearing.

Tuberculosis of the hearing organs, according to K. Nandor (*Medical Press,* April 9, 1902), usually occurs as a middle-ear suppuration. The process is mostly secondary, or it accompanies bone and lung tuberculosis, especially in children. Tuberculous

ear discharges form 0.7 per cent of all ear diseases. The path of infection may be either from the mouth through the Eustachian tube, or through an already present perforation of the tympanum from the external auditory meatus, and finally, via the blood. The demonstration of the presence of the tubercle bacillus is often difficult; in some cases it is indeed impossible. The clinical picture is variable. A most characteristic sign is the absence of a reaction and pain. The discharge is copious, thin, and foul-smelling. The process extends to the petrous bone, to the labyrinth, and ultimately caries of the petrous bone and impairment of the hearing result. It leads to facial paralysis, and to erosion of the blood-vessels. Severe complications, such as meningitis, thrombophlebitis, cerebral and cerebellar abscesses, may follow tuberculous affections. Milder cases are met with, especially in children. The prognosis is always unfavorable. Even when it heals, defects of the tympanum and impairment of hearing remain behind. The deeper the caries of the petrous bone extends, the graver is the prognosis; nevertheless, by operation some relief can be afforded. The treatment must be local and general. For such patients good air and good nourishment are advisable in addition to the local treatment. By conservative measures we must provide for the free drainage of the pus so that retention may not occur, and apply antiseptics. The best result, however, is to be obtained by operative measures, when we transform all the middle-ear cavities into one cavity, and remove all carious bone. The operation is indicated in every case of middle-ear tuberculosis, in which the lung tuberculosis has not yet made much progress.

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### Ocular Affections Associated with Glycosuria, with Especial Reference to Central Amblyopia.

W. L. Pyle (*American Medicine,* April 19, 1902) says that diabetes mellitus or other disturbance of the carbohydrate metabolism may affect any portion of the visual apparatus.

The ocular changes may be produced by chemic or physical means, or indirectly through the associate general debility.

The ocular affections may vary in intensity from a slight failure of accommodation to a formidable hemorrhagic retinitis and total optic nerve atrophy. Minor visual disturbances are often made worse by fatigue or increased cardiac action, and

may improve after prolonged rest or decrease of vascular tension.

The intraocular disturbances may be exclusively unilateral, and there is never seen, ophthalmoscopically, inflammation of the optic nerve, important differences from the changes in albuminuria, syphilis, and other blood dyscrasias.

It is not uncommon to find albuminuria coexistent with glycosuria, and the retinal changes may present a mixed picture, or a typical albuminuric retinitis may be present in a patient with diabetes.

Central amblyopia may exist in glycosuria entirely independent of the toxic influence of alcohol and tobacco, or in patients addicted to the habitual use of these substances this may be the prominent factor in causation. In these cases the initial lesion may be in the ganglion cells of the retina; the inflammation of the "papillomacular fibers" of the temporal half of the optic nerve being secondary to the retinal changes.

In chronic cases of glycosuria, with the exception of cataract, the ocular symptoms are often present when the constitutional and urinary symptoms are not marked.

The ocular symptoms may be the first to lead the patient to seek medical advice. Therefore glycosuria should be suspected in the following conditions:

(*a*) Premature presbyopia.

(*b*) Unexplained mydriasis or cycloplegia.

(*c*) Sudden change in the refraction; particularly, marked development or increase of myopia past middle age, without cataractous changes.

(*d*) Intractable iritis.

(*e*) Cataract in young or middle-aged persons. An examination of the urine is advisable even in cases of senile cataract, as the etiology has a bearing on the prognosis of operation.

(*f*) Retinitis, particularly of the hemorrhagic variety.

(*g*) Unexplained optic nerve atrophy.

(*h*) Sudden and marked amblyopia, particularly central, without visible fundus changes.

The prognostic significance of the ocular disturbances is not definitely established, on account of the great difference in pathogenesis, severity, and ultimate issue of the numerous forms of glycosuria. Even in well marked cases not only many formidable eye lesions improve, but the patient's general health may be restored. Again, the ocular symptoms may remain stationary and the general health improve, or a case of diabetes mellitus may proceed rapidly to a fatal termination without showing marked

ocular disturbances. Hemorrhagic retinitis and amaurosis preliminary to coma are the most serious symptoms. The ophthalmoscopic observation of greatest value in prognosis is the state of the retinal vessels, as this may be taken as an index of the patient's general vascular condition.

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### Loss of an Eye Due to a Blow on the Temple in a Patient Who was the Subject of the Hemorrhagic Diathesis.

Brown Pasey (*Archives of Ophthalmology,* vol. xxxi, No. 2) records the unique case of a "bleeder," a man aged twenty-eight, who had received a severe blow on his right temple from a man's fist one month previous to being seen by the doctor. The eye had been prominent since then. To relieve the exophthalmos, swollen lids, etc., an incision was made through the conjunctiva into the orbit, where broken-down blood-clots were found. After the exploration a strip of gauze was introduced for drainage. Very slight inflammatory reaction followed the operation, but a great deal of oozing from the wound continued, and on the second day the lids and surrounding tissues were greatly swollen and black, with the exophthalmos increased and the cornea broken down. After two weeks, the swelling having lessened, an incision was made into the globe and partial cleaning out of its contents. This was followed by an alarming hemorrhage, which continued, in spite of tight bandaging, for two weeks. It was pointed out that the important lesson to be learned from the case was that an injury of the temple or forehead in a patient who is a bleeder may be an accident involving grave consequences to an eye.

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### Causes and Treatment of Phlyctenular Conjunctivitis.

Hilbert (*Memorabilien (Heilbron),* xliv, 5), after examining 100 children affected with phlyctenular conjunctivitis and finding swollen scrofulous glands in 73, scrofulous eruptions in 22, and rachitis and scrofula in 5, asserts that this association with scrofula cannot be a mere coincidence, and he proclaims that treatment of this affection should aim first to cure the scrofulous condition. He recommends cod-liver oil, iodine, baths, etc., as the best general measures, and supplements them by insufflation

of calomel into the eye once daily. The eye should be rinsed out several times a day with a tepid solution of boric acid. In case iodine is taken internally, the calomel cannot be used on account of the danger of the formation of sublimate. He therefore substitutes a salve of the yellow oxide of mercury in five parts of vaselin. Under this combined treatment, cases are cured in six to ten days.

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## GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

### Vaginal Hysterectomy for Carcinoma of the Uterus.

Pryer (*Boston Medical and Surgical Journal*, April 17, 1902) says that in removing cancerous growths from the uterus it should be borne in mind (1) that the localities of natural increase or recurrence are parametrium first and vagina second; (2) the surgical rule that no trauma or section should be inflicted upon the involved field during its removal, lest hitherto uninvaded absorbents be opened up for the reception of the cancer elements, and lest severe trauma upon the cancerous growth result in the projections of the cancer elements along the absorbents directly in connection with the cancerous mass; (3) consideration of the general bodily condition of the patient. The first essential requires the parametrium be removed, together with the upper third of the vagina, in all cases of cancer of the cervix; and in cases of cancer of the body the parametrium only. As no incision should be made through the cancer, these organs must be removed *en masse*. This can best be done by opening the abdomen, and in young women, who bear the strain of abdominal operation better than the aged, and in whom cancer of the cervix tends to spread more rapidly and recur more promptly, he prefers abdominal hysterectomy. Pryer finds a distinct indication for vaginal hysterectomy in but a limited percentage of cases of cervical cancer, although it may be the operation of choice for cancer of the body except in case of young women in whom the cancer has pus foci or is associated with fibroids.

# THE MEDICAL AGE

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## ORIGINAL CONTRIBUTIONS.

### FOUR CASES OF EXTRA-UTERINE PREGNANCY TREATED BY THE VAGINAL ROUTE.

BY FRANK L. ADAMS, M.D., OAKLAND.

*Definition.*—When the impregnated ovum is developed in any other location than the uterine cavity, it is called extra-uterine pregnancy or ectopic gestation.

The principal varieties of extra-uterine pregnancy are: (1) Tubal or Fallopian; (2) interstitial; (3) ovarian; (4) abdominal. The ovarian and abdominal forms have been disputed by some of the best authorities, but rare cases of the ovarian have been demonstrated by Leopold, Patenko, and Martin. Schlectendahl reported a case of abdominal pregnancy, the rarest of all, and one that could not be explained by any other hypothesis. The interstitial is evidently a modification of the tubal, as the pregnancy takes place in that part of the tube which traverses the uterine wall. Hence Dudley concludes that for practical consideration the tubal is the only form of ectopic gestation. The interstitial and tubal are primary forms of extra-uterine pregnancy —that is, the fertilized ovum develops where it is first arrested. When a rupture takes place, or there is a change of position by reason of development, it is called a secondary form. According to Kelly, the interstitial may become secondarily: (1) Intra-uterine; (2) abdominal (fetus dies); (3) intraligamentary (fetus dies). In a similar manner the tubal may become: (1) Mole (fetus dies); (2) abortion (fetus dies); (3) tubo-abdominal; (4) tubo-ovarian; (5) abdominal; (6) intraligamentary (fetus dies).

*Location.*—In a large number of cases it is found that there is an equal liability of occurrence of the condition on the right and left sides.

*Frequency.*—It was formerly considered that tubal pregnancy was a very rare condition, but at present it is not so held. Formad

reported that in making 3500 general autopsies he found thirty-five cases, or one per cent. This is the highest percentage yet reported, and proves that the condition is not so uncommon as was formerly believed.

Pelvic hematocele, which was recognized and described by the older investigators, is not of uncommon occurrence, and it is now maintained by the best writers that in nearly every instance this condition is the result of ectopic pregnancy.

Tubal pregnancy may occur on both sides at the same time, or there may be a twin pregnancy in the same tube. Extra- and intra-uterine pregnancy may occur simultaneously, or a recurrence of extra-uterine pregnancy may happen to the same individual. Tubal pregnancy has occurred after removal of the uterus through the opening left in the vagina.

*The Causes of Tubal Pregnancy.*—Some of the best authorities believe that the true cause of this condition is obscure or unknown; others, however, equally worthy of consideration, give the following as probable reasons for ectopic gestation: Catarrhal or purulent salpingitis; perisalpingitis, producing adhesions of ovaries and tubes; reversed or impaired peristalsis; destruction of the cilia; accessory tubes; imperfect development of the tubes; great length and tortuosity of the tubes; hernia or diverticula of the tubes; thickening of the tubes; dilatations, constrictions, flexions, and torsions of the tubes; mucous polypi within the tubes; fibroids, or other tumors producing pressure on the tubes; persistence of a fetal type of uterine tube. It seems perfectly logical to suppose that the causes just mentioned would be active in preventing the downward passage of the ovum, whether impregnated or not, to the uterus, and thus produce either sterility or ectopic gestation.

*Time of Rupture.*—Early rupture is the rule in tubal pregnancy, but it may occur at any period. Rupture is not very usual at the first month, while the majority of cases, according to statistics, rupture in the second month. It is of frequent occurrence in the third month, comparatively rare in the fourth, and very rare in the fifth month.

*Cause of Rupture.*—The cause of rupture may be due to: (1) Tension of the tubal walls; (2) hemorrhage between the ovum and sac; (3) mechanical causes, such as falling, jumping, digital examination, laughing, coughing, or vomiting.

*Symptoms and Diagnosis of Tubal Pregnancy.*—(1) No certain means in the early period. The patient may be utterly unaware of her condition until the occurrence of rupture (Dudley). (2) Frequently cases of extra-uterine pregnancy give a history

of previous sterility and regular menstrual periods with a sudden cessation. (3) The usual signs of pregnancy, such as cessation of menstruation, nausea, and changes in the breast (Kelly). (4) Slight or even severe hemorrhages from the uterus, coming continuously or at intervals (Dudley). (5) Colicky pains, probably due to tubal or uterine contractions, and signs of peritonitis (Dudley). (6) Sudden and severe pains, which are often described as tearing in character. (7) Disorders of micturition and defecation (Pozzi). (8) Pelvic pain and the presence of a tumor distinct from the uterus and sensitive upon pressure (Kelly). (9) Decidua cast off from the uterus, and the presence of a growing tumor (Routh). (10) Any irregularity of the menstruations, and the presence of a mass at the side or behind the uterus (American Text-book).

*Mortality.*—The mortality in extra-uterine pregnancy when the plan of non-interference is followed is very high: Schauta says 68.8 per cent in 241 cases, and Martin 63.1 per cent in 265 cases. With interference Martin found a death-rate of 23.3 per cent in 515 cases. Kelly, however, believes that in the hands of good operators the rate should not exceed five or six per cent. In cases where there is sepsis and peritonitis, the death-rate would probably closely approach the figures given by Martin. Under the proper conditions the surgeon can reduce the mortality to one-tenth of that following the expectant or medical plan of treatment. When such a condition is suspected, a complete history of the case should be taken and a most careful bimanual examination made. If the patient is unduly sensitive, the investigation should be made with an anesthetic. When rupture has taken place, the diagnosis is usually less difficult, as there are the usual signs of hemorrhage attended with pain of greater or less severity.

*Treatment.*—The treatment of this condition is, for obvious reasons, surgical as soon as the diagnosis is made. In the great majority of cases the abdominal route is the best, especially when internal hemorrhage is suspected. When, however, there is a well defined and immovable mass felt through the vaginal vault, vaginal section and drainage are clearly indicated. In properly selected cases the vaginal method is better, safer, and more rapid than the abdominal. This is especially true when we are dealing with an adherent sac, accompanied with suppuration or an active peritonitis. The tubes and ovaries are preserved, the abdominal cavity is not usually opened, and the intestinal adhesions are avoided. The shock is much less marked, as the anesthesia is much shorter, and the handling of the bowels

unnecessary. On the other hand, there is danger of wounding the rectum and the intestines, when adhesions are present, but with care this can be avoided. Rarely the wall may perforate through suppuration, and infection of the peritoneum result. Occasionally the hemorrhage is severe and cannot be controlled. In such a case the abdomen must be opened and the vessels tied.

*Case 1.*—Aged thirty-two years, married six years, no children, no miscarriages, menstrual periods always regular and without pain. Health has been excellent. Menstruation appeared in June, 1900, as usual, but was absent in July and August. August 25 she had indefinite but not severe pains in the right side bordering on the right umbilical region and intermittent in character, but the abdomen was not tender to the touch. Bowels constipated, and necessary to resort to enemas in order to properly move them. Patient had been confined to bed for three weeks when she was admitted to the hospital, on the 16th of September. A few days before her admission to the hospital I saw her in consultation with Dr. Akerly, and found the patient suffering with signs of sepsis. High temperature, sweating, and a marked tenderness over the entire abdomen. Upon vaginal examination a large mass posterior to the uterus was easily found. The evidences of extra-uterine pregnancy were absence of menstruation, intermittent pains, and distress in the epigastrium when the menstruation did not appear. Diagnosis: pelvic abscess and tubal pregnancy. Patient admitted to hospital September 16, 8 P.M. Pulse 100 and temperature 102.4°. She was operated upon the next morning at ten o'clock. A large incision was made posterior to the uterus, and the sac was opened. A considerable quantity of greenish amniotic fluid came away, and with some difficulty a tissue resembling placenta was removed; this was attended with considerable hemorrhage, which was controlled by packing and a pad placed over the abdomen. No fetus and no cord were found. The patient had a long and slow convalescence, attended with much suppuration, and left the hospital in good condition after ten weeks. At the present writing she is in the best of health, and the pelvic organs appear to be normal in every way.

*Case 2.*—Aged thirty-three years, married sixteen years; seven children, six living and in good health; one child died at six months from convulsions; no miscarriages; labors easy. During September she consulted me on account of bronchitis, slight fever, and occasional sweats. Tuberculosis suspected, but no bacilli found in the sputum. Following my advice, she went to the country, and returned much improved but still an invalid.

November 8 I was called, and found patient in bed and flowing freely. Patient had not missed her period, and on that account did not believe herself pregnant. A vaginal examination revealed nothing of interest. No pains, and the uterus not enlarged. November 22 she had very severe pain, and felt weak and faint. November 23 severe pains in chest and abdomen, and extreme weakness; pulse weak. The patient gradually improved, but there was a slight and constant hemorrhage from the uterus. December 18 quite a large mass was discovered posterior to the uterus and to the left. Patient removed to the hospital December 20. Operated upon December 22 at 8 A.M. Diagnosis: extra-uterine pregnancy. By an incision posterior to the uterus a sac of considerable size was opened; some fluid and clotted blood removed. Placental tissue torn away with the fingers. No cord and no fetus found, and sac packed with gauze. Patient left hospital in twenty-six days in good condition. At present time she is in fair health, but has laceration of uterus and perineum, which I did not deem it advisable to repair at the first operation. Pelvic organs in good condition. The signs of extra-uterine pregnancy in this case were a constant flowing of blood, abdominal pains, weakness, and rapid pulse, and the presence of a mass which increased in size. No other evidences of pregnancy and no changes in the breasts. At first it was thought to be an ordinary case of miscarriage, but later on the diagnosis was evident.

*Case 3.*—This is one of Dr. Crowley's, and the history has been kindly given by him for this paper. Aged twenty-nine, married ten years, no children. Menstruation always regular, and very profuse when a girl, but not so much since she has been married. Six months after her marriage she became pregnant, and when in this condition three months she took abortive pills, which brought on the flow. She was ill in bed for one week, and made a rapid recovery. She missed her next period, and at the end of six weeks went to a professional abortionist, who after causing her much pain brought on a slight flowing of blood. In a few days she returned to his office for another treatment; on this occasion she fainted before reaching home, and was confined to her bed six weeks with sepsis. For the last three years she has been very tired when walking or standing, and has suffered with a bloody mucous discharge. Her last menstruation appeared November 17, and continued for three days. She missed her next period; the breasts became swollen, and there were abdominal pains. March 1 the patient called Dr. Crowley, who found signs of sepsis and a large mass

posterior to the uterus. An immediate operation was advised, and after some hesitation the patient was removed to the hospital March 14; on March 16 an operation was performed. Diagnosis: sepsis and extra-uterine pregnancy. The usual incision was made, and a considerable quantity of amniotic fluid came away. A large placental mass was removed with much difficulty, and this was attended by severe hemorrhage. The sac was thoroughly packed with gauze, and a compress placed over the abdomen. Since then the patient has been most dangerously ill with sepsis, and irrigations for a time were used every four hours. She is now convalescent, and will in all probability make a good recovery.

*Case 4.*—Aged thirty years, married three years, health good, no children, no miscarriages. First menstruated at sixteen years, and always regular, continuing for four days. Menstruation so slight in amount, however, that she often resorted to tonics. Six years ago the patient was injured by a fall from a carriage, and had a pelvic abscess, which was opened *per vaginam*. She has pain in left ovary two days before menstruation, and is not able to stand during this period. Has had some leucorrhea, which was relieved by astringent douches. March 1 I was called to see the patient, who had passed her period six days, and thinking she was pregnant, had taken abortive medicines. There had been slight flowing, chills, high fever, temperature 103.8°, and the entire abdomen was tender and tympanitic. Pulse 130, and severe pain. Upon digital examination the uterus was found to be extremely sensitive, and more pain on the left side than the right. Diagnosis: retained decidua, sepsis, and general peritonitis. The patient was removed to the hospital, and taken to the operating-room after a careful preparation. When under the anesthetic the uterus was found to be normal in size, and a small tumor was discovered in the region of the left tube. I still believed I had a case of retained secundines, but failed to find any evidence of their presence after a thorough curettement. The uterus was irrigated and packed with gauze. Then an incision was made posterior to the uterus and the adnexa examined. A mass double the size of a large English walnut was found in the left tube, and this was brought down with a pair of forceps and ligated. The wound was packed with sterile gauze, and the patient carried to her room. The packing was allowed to remain for forty-eight hours, and since then the wound has been irrigated and packed every day. The patient showed marked improvement at once, and is convalescent. Through an oversight the specimen was thrown out, but there

was no doubt in the minds of those present that the case was one of tubal pregnancy. The cause of the high temperature and general peritonitis I cannot explain, as there was no rupture and no hemorrhage.

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## EMPYEMA OF THE FRONTAL SINUS.

BY H. BERT ELLIS, M.D., LOS ANGELES, CAL.

Suppuration of the accessory sinuses of the nose is a condition too frequently overlooked, although the true character of the same has been known by individual observers for many years. In regard to suppuration of the frontal sinuses, Dezeimeris wrote quite extensively as far back as 1839. In 1859 Bouyer published an article on the anatomy and pathology of this region; and Steiner, in 1872, gave the results of his observations on the same subject. Zuckerkandl, a few years later, gave us a most thorough and complete treatise on the nasal cavities and their accessories; while Howard A. Lathrop, of Harvard, in 1898, put into print the most comprehensive article on the anatomy and surgery of the frontal sinuses and the anterior ethmoidal cells which has yet been presented to the medical public.

The frontal sinuses are irregular pyramidal-shaped cavities, extending outward from about the median line of the forehead to within a short distance of the supraorbital notches. The surfaces are the anterior, the posterior, the inferior, and the internal; occasionally the cavities connect directly with one another through the internal surface, and in a healthy condition each one is connected with its corresponding nasal cavity through the infundibulum; however, prior to puberty, the sinuses do not exist. Inflammations of these cavities arise from either traumatism or infection, and the latter may be local or systemic.

The subjective symptoms are: pain caused by pressure; aching in the frontal regions, increased by stooping or coughing, relief from which comes suddenly, accompanied by discharge of mucus or pus from the nose; pain, however, may not be a prominent symptom, and in fact may not exist at all. In chronic cases there is ordinarily a dull ache in the frontal region, with tenderness of the eyeballs on pressure. Objective symptoms are pus in the nasal cavities, upper lid edematous and red, and if the condition becomes chronic, abscess and fistula near the inner canthus, with tumors or mucocele in the same region. The diagnosis may at times be made on the first glance at the in-

dividual; at other times it needs weeks of careful observation, requiring a suggestive previous history, together with existing subjective and objective symptoms. Suppuration of the lacrimal duct and from the nasal duct would lead us to investigate the condition of the anterior ethmoidal cells, which are more frequently than otherwise involved, when suppuration of the anterior sinuses exists. Excessive discharge of pus from one nostril, which is not to be accounted for by acute rhinitis, and which can be located in the infundibular region, should always excite our suspicion, as it may arise from the ethmoidal cells, the antrum of Highmore, or the frontal sinus, and at times it is very difficult to determine from which of these regions the pus comes. This may frequently be determined by placing our patient in varying positions and noticing the position which allows the pus to flow most freely. We may, however, call to our aid transillumination. This is not always certain, but may give us a clue if one side differs from the other. The light being placed under the supraorbital arch, first of one and then the other, should there be a difference in the illumination we may suspect the lesser of being inflamed, although we may not be positive.

*Treatment.*—In acute cases direct local measures are usually futile. Analgesics are inoperative, opiates alone giving relief, although occasionally some of the coal-tar products may be useful; locally, cocaine or eucaine, followed by adrenal solution applied by pledgets of cotton to the region of the anterior end of the middle turbinated body, may sufficiently reduce the congestion to allow the discharge of the exudates of the frontal sinus through the infundibulum, and this effect may be increased by following with a spray of camphor and menthol, 15 to 30 grains each to two ounces of white oil. An ice-bag applied to the forehead may relieve much pain; biting off the anterior end of the middle turbinated body and syringing out the infundibular region or the sinus itself. In chronic states the treatment will depend upon existing conditions, as Lathrop says: (*a*) Intranasal treatment, first, by means of the internal canal between the sinus and the nasal cavity, using a probe and irrigating cannula; secondly, the perforation of the floor of the sinus. (*b*) External operations, first, on the anterior sinus wall; secondly, on the inferior sinus wall; and thirdly, complete removal of both of these walls. (*c*) Both of these methods may be continued by entering the sinus externally and making a large opening in the nasal fossa.

The question of probing and irrigating frontal sinuses

through the nose has been the subject of much controversy; while it seems, from competent evidence, to be unworthy of being seriously discussed, because some cases can be easily probed and irrigated, this is accomplished in others with difficulty; and in quite a fair proportion of cases it seems quite impossible to probe or irrigate at all. It does seem as if irrigation of the infundibular region will relieve many of the cases, and it is a question whether it is justifiable to resort to the external operative treatment until local irrigation has been attempted for a week or two. In order, however, to accomplish the best results by irrigation, it seems to the author that it would always be the part of wisdom to remove the anterior portion of the middle turbinated body.

It is the opinion of some authorities that chronic suppuration in the frontal sinus never yields to local treatment; if such be the case, then local treatment is a waste of time. However, under ordinary circumstances, if the delay be not too great, the loss of time is not a serious condition. Perforation of the floor of the sinus is not an operation advocated by many authorities, because the proportion of cases cured is not great by this method. In this case the instrument perforates the floor of the sinus median to the middle turbinated bone, but the proportion of these are so few that it is hardly the part of wisdom for us to consider them. In regard to the external operations, it is important to decide carefully, first, whether the operation be necessary, for it is a well known fact that the majority of these cases are not urgent, and as most external operations are deforming in their results, it is certainly wise to give the patient the benefit of the doubt, and see what benefits may accrue from local treatment. When, however, intranasal treatment has failed of results, and it is desirable to remove the element of danger from pressure, or remove the mechanical symptoms consequent upon pressure from any cause, or when there is external fistula which fails to heal in a reasonable length of time, we may find it necessary to operate. Then arises the question, Shall we enter from the anterior or inferior walls, or combine both of these routes? and whether we shall drain through the nose or whether we shall drain in both directions; or, on the other hand, obliterate the sinus.

Of the modern operations, probably that of Ogston, presented in 1884, is now generally considered the best. He made a vertical incision four centimeters long, starting from the root of the nose and passing upward. The skin and periosteum were reflected laterally, and the frontal bone trephined in the median

line, thus opening, in the majority of cases, both sinuses simultaneously; the trocar was then passed into the nasal cavity through the frontal canal and infundibulum, and the opening enlarged, the mucous membrane curetted, swabbed with a zinc chloride solution, drainage-tube inserted to pass out through the nose, and the external wound closed. Schmidt makes an incision along the eyebrows, following the angle of the orbit, and reflects flaps up and down; he makes a small hole in the sinus with a chisel, examines with a probe, and acts accordingly, but leaves a gauze tampon in the sinus. Nebinger advocates the entire removal of the anterior wall, with complete curetting of the entire mucous membrane, followed by immediate tampons. Kuhnt removes both anterior and inferior walls; he explores with a probe, removes the orbital portion of the floor near the internal angle, and if the sinus is large, makes a vertical incision to the inner end of his horizontal one, turns up a flap of skin, then removes the anterior and inferior surfaces of the sinus, bevels the sharp edges of the sinus walls, curettes the surface, and tries to obliterate the sinus by causing the flap of skin to become adherent to the posterior wall; he does not disturb the ethmoidal cells unless they are involved. The result in this case is external deformity.

I will report three cases as types to illustrate the three different methods of infection, and the different methods of relieving the trouble:

*Case 1.*—To illustrate systemic infection. R. T——, a boy aged twelve, of syphilitic parentage, came to my clinic complaining of blindness of the right eye, the same having existed for some months. Found hypopyon with exudate covering the small pupilary space, and iritis. There was a profuse discharge of pus for two years from the cunjunctiva, which proved to come, upon careful investigation, from a sinus whose mouth was situated in the conjunctival sac, close to the caruncle, the origin of which was not diagnosed until the operation was partly completed. Absolutely no light perception. The eyeball was removed, and the orbital abscess washed out; the probe discovered dead bone along the inferior surface of the frontal sinus, and along down the canal to the infundibulum. The rough bone was curetted away, the frontal sinus carefully scraped, and a No. 16 probe passed down through the infundibulum into the nose and allowed to remain one-half hour; on its removal the cavities were irrigated and filled with borated gauze and dressed daily for two weeks, and the boy discharged. Up to the present day he is free from profuse nasal or orbital discharge.

*Case 2.*—Local infection. Mr. P. S. W——, aged thirty-six, had an attack of grippe in February, 1900. He was brought to me the 9th of June of the same year with a tumor the size of one-half a pea beneath the inner end of the supraorbital ridge of the right eye. This tumor had an infiltrated border, was not movable, and was very hard, and the eyeball was slightly displaced downward and outward, 9.5 degrees esophoria, 2 degrees hyperphoria B. U. L., much more than the size of the tumor would lead us to expect; there was no pain, no aching, only a slightly uneasy feeling; there was no nasal discharge, no nasal indication of accessory sinus disease; sarcoma was suspected, though specific trouble might be possible; large, increasing doses of saturated solution of the iodide of potassium were given, and cantharides blisters, one-half by one-fourth inch, were used over site of tumor. June 17, .5 degree esophoria, 1 degree hyperphoria, B. D. L. June 20, on making firm pressure on the tumor, something seemed to give, and patient spat out bloody matter, and the eyeball assumed a better position; diagnosis made of frontal sinus suppuration. July 17, operated on the right frontal sinus by a vertical incision two-thirds of an inch long, two-thirds centimeter to the right of the median line, raising a flap with periosteum, and pushing it outward drilled into the frontal sinus and evacuated a large quantity of pus; the inferior surface of the sinus was mostly absorbed, so that on curetting but little was left of the inferior surface except the external periosteum; probe was passed into the nasal cavity to secure drainage, and the wound packed with gauze. The sinus was dressed twice daily, irrigated, and drainage-tube used instead of packing after the first forty-eight hours. At the end of two weeks, with scarcely any discharge, the patient gave every indication of getting quickly through with his trouble; then he took a severe cold, accompanied by great swelling of the eyelids, bridge of nose, and forehead, with considerable discomfort; hot compresses were used for an hour at a time, every two hours, day and night. When I made my morning visit on the 3d of August to dress the wound, I found my large, hard-rubber drainage-tube, seven-eighths of an inch long by almost one-fourth of an inch in diameter, missing from the wound. I probed the antrum until the patient was exhausted, and we were both convinced that it was not there, and that the nurse must have lost it in changing the hot dressing during the night. Another drainage-tube was inserted; conditions improved, but whenever the patient would contract a slight cold there would be more swelling of the lids and forehead, and there would be more discharge. I finally be-

came convinced that there must still be in the antrum some necrosed bone; therefore, on January 16, 1901, I reopened the whole tract, scraped out the antrum, found considerable necrosed bone in the region of the infundibulum, made a large opening through into the nose, and passed a soft drainage-tube clear through, connecting the ends by twisted silk. During this operation I was not forgetful of the fact that I had lost a hard-rubber drainage tube, but failed to find any in the frontal sinus. I slipped the drainage-tube out twice daily, and irrigated with bicarbonate of soda or boric acid solution, then slipped it back again. For the first week there was considerable discharge, then it got gradually less and less, and in the course of six weeks I removed the tube entirely, but pus continued to be discharged in small quantities from the opening in the forehead, so that on April 1 I probed the wound to see if I could find any more necrosed bone. I found a rough, movable surface, which I supposed a loose piece of bone, and at once proceeded to remove it; it took me some time to get a good hold, and when I did my surprise was great in delivering a hard-rubber drainage-tube. Since the removal of this conditions have materially improved, and the patient is in a fair way to discharge his physician shortly. How the tube could have remained and escaped discovery at the second operation is difficult to understand.

*Case 3.*—Traumatic. C. T. C——, a miner, aged forty-nine, came to me July 31, 1889, to be relieved of a seropurulent discharge from a sinus situated slightly below the nasal end of his left brow, which had existed four and one-half months. He gave the following history: On January 19, 1893, while doing some range practice, his 40-90 rifle burst, and he was struck on the forehead by a piece of the gun, and somewhat stunned. Within half an hour, however, he presented himself to the local surgeon, who discovered a wound three-quarters of an inch long, running from just above the inner canthus upward and slightly outward through the brow. The surgeon put in two or three stitches, breaking two or three needles in doing so, but as he did not probe the wound it healed without suppuration in a few days. For a week the swelling was considerable. After the swelling went down a slightly elevated place was found just above the inner canthus, which had the feeling of rubbing the skin over a roughened surface, but as the wound had healed it was thought best not to disturb it. After the wound healed in January, 1893, it never had any discharge, but always a slight pain in the left eye, with inability to use both eyes together. I found a slight elevation of the skin just above the inner canthus

of the left eye, which gave the sensation of rubbing over the rough end of a broken bone. On using a silver probe I could not touch the bone, but could feel it pass over an uneven surface, which seemed to have soft tissue covering it. My diagnosis was necrosed bone. The next day I operated. My incision was from the opening of the sinus along the bridge of the nose, following the sinus track, which took the wound over the swelling and made an angle of 120 degrees with the cicatrix. While carefully removing the tissue from the supposed necrosed bone, my instrument struck metal, which I was not able to remove without chiseling off a small piece of the supraorbital ridge. I washed out the frontal sinus, scraped out some granulated tissue from this opening in the nose, packed with borated gauze, and dressed daily. In thirty days the wound had completely closed, leaving a slight depression at the side of the old sinus. The piece of gun-lock removed was perfectly preserved, there being no rust present; it was 29 millimeters long, 17 millimeters broad at one extremity and 11 millimeters at the other, 7½ millimeters thick, and weighed 190 grains.

In closing, I wish to add one word in favor of a median incision with small bone perforation, one-half or less, as the most satisfactory method of operating in the majority of these cases. The time occupied to complete a cure may be greater than where a larger incision and larger masses of bone are removed, but after the former operation we will not leave our patients disfigured, while in the latter disfigurement is very great. To my mind, the best surgery is that which gives good results with least disfigurement.

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## WHAT SHOULD THE PATIENT KNOW ABOUT HIS DISEASE AND TREATMENT?

BY J. HOWE ADAMS, M.D., PHILADELPHIA.

One question which has confronted me daily in my practice is one which I have never seen touched upon by lecturer in medical school, or by writer in medical journal. It is the all-important one, What should we tell a patient about his condition? For example, I have had a man come to me and tell me the most ridiculous jumble about himself, which on the face of it was arrant nonsense, but which he solemnly assured me was told him by Dr. So-and-so. This has set me to thinking again and again, and I believe that as a rule physicians nowadays are too apt to take their patients into their confidences and give them

too much clinical diagnosis and therapeutics. We must remember that patients have a very limited medical knowledge, and anything that is told them naturally must become more or less distorted; and while they can understand certain fairly well known conditions, to go into a minute description of a case of a patient is I believe unfortunate, especially if the case is obscure.

Then also comes up the question of medicine. Many physicians are in the habit of telling their patients what they are taking, even including the dosage, and there are some patients who have been so spoiled by this procedure that they refuse to take medicine unless they are told by the physician what it is, and in some instances requiring the prescription to be put upon the bottle or the box. This latter point I believe to be particularly unfortunate. As a rule it is a mistake for a patient to know what medicine he is taking. In the first place, if he is taking some drug which may form a habit, such as some form of opium or bromide of potassium, he will possibly feel that he must keep on with the drug, and I have known habits to form in imaginative people simply because they felt they could not do without the medicine and continued it after the physician had given up the case. I remember one case especially, where a young lady felt that she must continue a prescription which was composed of the three bromides—ammonium, sodium, and potassium. Her family found that she was growing sleepy and intellectually very dull. They investigated her condition and found that she was surreptitiously taking good-sized doses of these drugs from a bottle which she kept concealed. At my suggestion we emptied out this bottle of medicine and made up a new prescription for her, which consisted of common table salt with a little aqua ammonia and a few household ingredients until we had acquired about the same flavor as the original preparation. This bottle was then placed back quietly, and the young lady took this new prescription without bad results for several months until her condition had improved very much, due in this case to the lack of medicine, when she was informed what had taken place, and she was laughed out of the habit. It had simply resulted from the fact that her physician had told her that he was giving her "bromide" when he ordered the medicine.

Then, again, comes up the question of telling a patient sick with an incurable disease of his condition. Personally, I have not been obliged to tell a patient of this condition, for as a rule there is something instinctive within a patient himself which tells him of his true condition, and my patients of this class have realized invariably their state without being informed by

their physician. It seems to come with a double force when told by the family doctor. I was led to this procedure from seeing a case with the late Professor Goodell. He was called to see a woman who had cancer of the breast. She determined to know definitely and positively the truth in regard to her condition. She stated that she was a religious woman, that she was not afraid to die, and that she did not want to be deceived. Thereupon Professor Goodell told her in his own considerate way that she had cancer, and in his experience from previous cases would live about eighteen months to two years. The woman went home, and did not seem to be especially depressed by the news she had received for a few days. Then she went to bed and died in six weeks' time. Professor Goodell believed that undoubtedly the depressing truth which he had told her had been the cause of her dying so quickly.

I was told at the outset of my professional career that it was not well to be too kind to my patients, for, my informant told me, a man who is too pleasant and too polite to his patients does not know what he is doing; if he is sure of his ground, he is apt to be more or less brusque, and he always wanted a physician who was more or less curt and summary in his manner. This is rather a novel view of the case, although it does contain a germ of truth. But the physician should be like the Apostle Paul, "all things to all men," at least in his manner, and a dignified, courteous, considerate manner should never be amiss under any circumstances.

In coming in contact with the patients of a very well known physician I have noticed that they have placed perfect confidence in their practitioner, and that as a rule they have asked little or nothing in regard to their condition or their medicine. In other words, in a condition of perfect trust the patient as a rule does not care to be bothered with intricate explanations of his pathological condition or a lecture upon the physiological action of the drug which he is going to take. It is better to give, if necessary, a very short description, couched in the plainest language possible, of the patient's condition, and giving no explanation whatever of the medicine which is to be taken, beyond stating that it will have a beneficial effect. In fact, the point that the medicine will have a beneficial effect is one that is very important to impress upon a patient; for undoubtedly the influence of the mind upon the body which has been so well worked by faith-cures and Christian scientists is one that should not be neglected or under-rated by the practicing physician.

Again, the practical point arises as to the ownership of a

prescription. If a patient is at liberty to supply himself and friends indefinitely from a prescription it makes a serious loss to the physician. It is giving away his goods. Following an epidemic of influenza a few years ago, a druggist told me with pride that he had dispensed a hundred dollars worth of one prescription of mine to people who came in to ask for it—in fact, it was common knowledge that he prescribed it liberally himself, saying, "Save the expense of a visit to the doctor." The use of tablets dispensed by the physician himself will quickly put a quietus on this scheme of druggist and patient.

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The Turin Academia di Medicina announces, says the *Journal of the American Medical Association,* that the eleventh Riberi prize of about $4000 will be awarded for the best work produced during the years 1902 to 1906 in the field of the medical sciences. Other points being equal, the preference will be given to works which have in view the amelioration of the hygienic conditions of Italy. Competing works must be in French, Italian, or Latin, and must be received by the Secretary, B. Silva, before the close of 1906.

Major Ronald Ross has submitted, according to the *Journal of the American Medical Association,* a very satisfactory report on the antimalaria work of the expedition to West Africa despatched from the Liverpool School of Tropical Medicine. At Freetown, Dr. Logan Turner, employing about seventy men, has drained nearly the whole of the most pestilential parts of the town. The areas dealt with were formerly full of hollows, pits, and ill-made drains, which in the rainy season contained stagnant pools breeding swarms of mosquitoes. A gang of men was also employed to collect old tins, bottles, and other rubbish from the houses, and 2257 cart-loads of such refuse have been removed and 16,295 houses visited. In Dr. Ross's opinion the possibility of ridding Freetown and therefore any town of mosquitoes has been demonstrated. The change in the demeanor of the Europeans is striking. Two and one-half years ago, when Dr. Ross visited the town, he never saw a more gloomy place. The inhabitants felt as if a sword were hanging over their heads. All this is changed, and they are as cheerful as the Europeans in India. Arrangements have been made for Dr. Taylor to proceed to Cape Coast in order to start antimalaria work there, as the mortality is very high.

# THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

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## EDITORIAL ARTICLES.

### HUMAN AND BOVINE TUBERCULAR INFECTION.

The sociological import of Koch's denial of the transmission of bovine tuberculosis to man is stimulating experiment which will doubtless in a short time reveal the true relations existing. The recent researches of Nocard established the fact that without doubt healthy calves are very resistant to human infection. The experiments of Koch and Shutz have demonstrated this before. Cattle inoculated with bovine tubercle die rapidly, but when infected with human tubercle they die with far less certainty. Two cows were infected by Nocard last August in the mammary gland; in one of them so far no sign of sickness is shown, while in the other a slight induration of the gland is all that is demonstrated. Notwithstanding this, these cows, otherwise healthy, react to tuberculin, and according to Nocard there is little doubt that they are really tuberculous. Cows and calves infected in the jugulars did not present any special phenomenon of infection, but they react more potently to tubercle and show a notable decrease in vivacity. On killing these animals after inoculation, the animals demonstrated a small but virulent lesion, and to insure himself of the pathological character of this it sufficed to inject emulsion of these bacilli which were of the nature of human tuberculosis into the arachnoids of calves. The animals died in less than a month from tubercular meningitis identical with that which occurs in them spontaneously.

The question is therefore somewhat diversified. If as Koch maintains cattle are extremely resistant to human tuberculosis, this is a fact which should be readily accepted by all observers. That the healthy calf takes it with difficulty but still takes it should also be recognized. There may be some difference in the conditions of resistance dependent upon the condition of health. It is possible that certain states of health diminish the animal's resistance. Nocard considers the assertion that apes die of spontaneous tuberculosis in this climate a great error. He holds that

they practically always acquire it from cow's milk. If this be so, it certainly indicates that the time has not yet arrived when the human family can eat tuberculous meat with impunity, nor should we too hastily accept conclusions to the contrary, however much they may have received the sanction of eminent authority.

## EDITORIAL NOTES.

### The Obstetric Fee.

The time-honored custom of accepting a case of confinement for a certain fixed fee is a poor one and should certainly be replaced by some more equitable system of charging. When the fee is a generous one it is all right, but to attempt to do properly the work involved in caring for a woman before, during, and after confinement for ten dollars—the average fee—is no doubt the cause of many a case of puerperal infection owing to the careless manner in which the work is performed by the physician, who is in a hurry to get back to his office or to make other calls which are more remunerative. A better plan would be to charge for each visit or office call made before the confinement, for each examination of the urine, for the amount of time spent at the time of the confinement, and for each visit made thereafter.

### The Water-supply of Steamships.

Now that the tourist season is coming on again would it not be wise to investigate the water-supply of steamships? Several cases of typhoid reached Egypt this winter, and they seem without doubt to have been infected by the drinking-water of their steamships. Many people imagine that on shipboard sterilized distilled water is the only beverage supplied. This is not so, nearly all steamships filling their tanks in port and trusting to imperfect filtration methods for its purity. The question is one which might wisely occupy sanitary authorities.

### Prophylactic Injections of Serum.

The results reported to the Academy of Medicine in Paris by Netter, Bourges, and Bergeron, of their experiences of the prophylactic use of antidiphtheritic serum are very convincing in their character. They conclude that immunization is called for in all families in which diphtheria manifests itself. Not only this, but in cases of school epidemics of measles and scarlatina, protective immunization seems to be secured by a timely use of antidiphtheritic serum.

# ITEMS AND NOTES.

Dr. H. B. Anderson, editor of the *Canada Lancet*, has resigned.

It is reported that bubonic plague has appeared at Zanzibar, Africa.

The Johns Hopkins endowment fund has been increased $70,000.

Several men of the Eighth United States Infantry have died from cholera in Manila recently.

General Chaffee has issued stringent orders to prevent the spread of cholera in the Philippines.

Sir Wm. S. Church has been reëlected president of the Royal College of Physicians, London.

Dr. Hans von Hebor, the famous professor of dermatology of Vienna, died at that city in his fifty-third year.

During 1901 over 1000 persons were treated at the Pasteur Institute at St. Petersburg, with a mortality of 0.1 per cent.

Dr. Nicholas Senn, of Chicago, has gone to Russia as a delegate of the Red Cross, which meets in Moscow this month.

The American consul at Canton, writing on April 24, announces that the bubonic plague has broken out in malignant form.

Side shows in France are exhibiting the alleged cinematograph pictures of the operation on the Hindoo twins, Dodica and Radica.

The Hawaiian Board of Health are on the lookout for a physician at the leper settlement on Molokai. The remuneration is $250 a month.

By recent ruling of the Treasury Department hospitals will have to pay duty upon medical instruments imported for the use of these institutions.

In the future no one but a graduate of a regular school of medicine will be allowed to take any one of the postgraduate courses to be given by the University of Pennsylvania Medical School.

THE third annual American Congress of Tuberculosis was held at the Hotel Majestic, New York City, May 13, 14, and 15.

BETWEEN September 21 and 28, 1902, the Association of German Naturalists and Physicians will hold its seventy-fourth annual congress at Carlsbad, Austria.

SLEEPING SICKNESS as an epidemic is reported to have broken out in Uganda, Central Africa. A medical commission from England will be sent out to investigate.

ACCORDING to an exchange the policemen patrolling Lincoln Park, Chicago, are to be equipped with medicine chests that victims of accidents may be given aid quickly.

AFTER thirty-two years of active teaching Dr. A. Jacobi retires from the chair of diseases of children, which he held in the College of Physicians and Surgeons, New York.

THE health officer of New York has decided this year not to enforce the quarantine restrictions against Cuba, owing to the fact that that island is at present free from yellow fever.

THE regents of the University of Iowa have decided to erect a new medical building to cost $200,000; when finished, this will probably be the finest medical school building in the West.

WIESBADEN, Germany, is certainly one of the most model cities in the world. The streets at midnight are well flushed with water and swept, and by this means the houses retain their fresh appearance, the air its purity, and the foliage of the trees its freshness.

THE United States Civil Service announces that an examination will be held in St. Louis June 3, 1902, for the position of physician in the Indian Service. The salary connected with this office is $900 per annum.

THE medical officers appointed to go to South Africa with the fourth contingent of Canadian troops are: Surgeon-Major Elliott, Quebec; Surgeon-Capt. A. R. Murray, New Brunswick; and Surgeon-Capt. W. H. Tye, of Chatham, Ont. The fourth has not yet been selected.

THE fifth annual convention of the Nurses' Associated Alumna of the United States, which was held in Chicago May 3, adjourned after electing Miss Mary Riddle, of Boston, president; Misses Harriet Fulmer, of Chicago, and Sarah Rudden, of

Philadelphia, vice-presidents; and reëlecting Miss Tamar Healy, of Brooklyn, treasurer, and Miss Mary E. Thornton, of New York, secretary.

Harvard College has now entered into formal possession of the site for its new medical school. The title is taken by the president and fellows of the institution, and the consideration given is $606,008. The land which comprises the site of the new medical school was conveyed to the trustees representing the college in August, 1900. It is a very large tract, comprising 1,128,824 feet of land.—*Exchange.*

The use of Professor Behring's diphtheria serum has resulted, according to statistics just published (*Philadelphia Medical Journal*), in the lowest death-rate ever recorded from diphtheria in Berlin in 1902. The deaths from diphtheria were then 469. Prior to the introduction of Professor Behring's serum the deaths from this disease ranged from 13,000 to 26,000 a year. In all but one of the Berlin hospitals the serum treatment is in use. In these the mortality is from 12 to 13 per cent, whereas in one hospital where it is not used the mortality is 64.7 per cent.

Thirty-one years ago, says the *Journal of the American Medical Association,* while living in Tennessee, a resident of Granger, Texas, who had been holding the spring of a clothespin between his teeth, accidentally sucked it into his trachea, whence it passed into the right lung. During all these years it caused symptoms much resembling phthisis. He died, however, after a stroke of paralysis. The autopsy revealed the spring, consisting of six coils, three-fourths of an inch long and one-third of an inch thick, embedded in the right lung, which was about one-third its normal size.

A unique and quite surprising operation has taken place in Greater New York, where a living frog was removed from the stomach of a woman, says the *New York Medical Journal.* The frog was probably swallowed when it was in ess form or in its infant state, a tadpole. It is believed that it lived in the patient's stomach for five years. The frog lived for several hours after the operation, and is preserved in alcohol in the laboratory of St. Catherine's Hospital, in Brooklyn. Mrs. Charles Burtis, the patient, will take it home with her to Hopewell Junction, N. Y., when she is discharged from the hospital.

The Colorado State Medical Society offers a prize of twenty-five dollars for the best essay, for circulation among the laity,

upon the dangers of self-drugging with proprietary medicines. The competition is open to all. The essays must be typewritten, in the English language, must contain not more than 3000 words, and must be submitted before June 15, 1902. Each essay must be designated by a motto, and accompanied by a sealed envelope, bearing the same motto, and enclosing the name and address of the author. The essay receiving the prize will become the property of the society for publication. Others will be returned to their authors. Essays should be sent to the Literature Committee, Dr. C. A. Graham, secretary, Stedman Block, Denver, Colorado.

Scurvy and typhoid fever are impoverishing the peasantry throughout the whole of the Altai region (highlands of Siberia), formerly the chief granary of Siberia. The starving people have, says the *Philadelphia Medical Record,* consumed the last remnants of their seed grain, and no spring crops have been sown. The last wheat sold in Altai fetched 2¼ rubles per pood, against the normal price of 16 to 20 kopecks per pood. In some places the scarcity of fodder is so great that half the houses have been unthatched to save the lives of the cattle and horses. The gravity of the situation is evidenced by the latest statistics. At Menzelisk there have been upward of 4000 cases of typhoid; at Belibeisky 682 cases have been reported; and at Akmollinsk over 1900 cases have occurred. Similar reports come from Veronej, Kasan, and Saratoff.

The chairman of the committee of arrangements for the twenty-eighth annual meeting of the Mississippi Valley Medical Association, Dr. A. H. Cordier, has announced the dates of the next meeting in Kansas City, Mo., as October 15, 16, and 17, 1902. The president, Dr. S. P. Collings, of Hot Springs, Ark., has announced that Dr. C. B. Parker, of Cleveland, O., will deliver the address in Surgery, and Dr. Hugh T. Patrick, of Chicago, the address in Medicine. A cordial invitation is extended every physician in the United States, but especially of the Mississippi Valley, to attend this meeting and take part in its proceedings. Titles of papers which are to be presented should be sent to the secretary, Dr. Henry Enos Tuley, 111 West Kentucky Street, Louisville, Ky., at as early a date as possible to obtain a favorable place on the programme.

# NEW PUBLICATIONS.

## REFERENCE HANDBOOK OF THE MEDICAL SCIENCES.

The fourth volume of this massive and encyclopedic work takes the reader from ergot to infiltrations. It is needless to say a large number of highly important articles are enclosed within these two points. The eye, the ear, the foot, all come in for exhaustive treatment. The value of a work of this kind cannot be overstated. It serves the purpose of a whole library of medical books. It deals not only with the larger things, but with all the small and often forgotten elements of medical science. The present volume is handsomely illustrated with colored plates and wood engravings.

Reference Handbook of the Medical Sciences. By Various Writers. Edited by Albert H. Buck, M.D. Volume IV. New York: William Wood & Co.

## INTERNATIONAL TEXT-BOOK OF SURGERY.

This text-book of surgery has been compiled on the modern plan, that of attributing different sections to specialists of recognized eminence. Antiquated data have been entirely discarded, and the text-book presents itself as a thoroughly modern compendium of what is to-day useful and necessary in surgical practice. The staff of authors includes the greatest names in American and British surgery. The book is amply illustrated with 458 illustrations in the text and full-page plates in colors.

The International Text-book of Surgery. By American and British Authors. Edited by J. Collins Warren, M.D., LL.D., and A. Pearce Gould, M.S., F.R.C.S. Volume I. Philadelphia: W. B. Saunders & Co.

## OBSTETRICS.

The fifth volume of the Practical Medicine Series is on Obstetrics. It is a concise and practical presentation of the subject from the modern standpoint. The publishers of the series are to be congratulated on the production of such useful monthly retrospects over the whole field of medicine and surgery.

Obstetrics. The Practical Medicine Series of Year-books. Edited by Reuben Peterson, A.B., M.D. Volume V. Chicago: Year-Book Publishers, 40 Dearborn Street.

# THE PROGRESS OF MEDICAL SCIENCE.

## SURGERY.

### Hemorrhage After Removal of Adenoids.

Louine (*Philadelphia Medical Journal,* April 12, 1902) reports five cases of severe hemorrhage following the removal of the nasopharyngeal gland in children from six to fourteen years old. In considering the causes of hemorrhage, the author mentions (1) hemophilia and anemia; (2) heart disease, especially hypertrophy of the left ventricle; (3) anomalies in the nasopharynx, especially the so-called vertebra prominens; (4) the anomaly of the posterior inferior border of the septum described by Grunwald under the name of ala septi; (5) anomalies in the distribution of the bloody vessels; (6) the employment of cocaine, which acts first as a vasoconstrictor and then as a vasodilator; (7) a remaining piece of the gland which remains attached by the mucous membrane only and acts as a foreign body; (8) menstruation; (9) very sharp instruments; (10) acute catarrhal condition of the upper respiratory passages accompanied by engorgement of the blood-vessels. As to treatment, the hemorrhage, if not very severe, may be controlled by the usual methods, such as injection of cold or hot water, insufflation of tannin, application of trichloracetic acid, ferropyrine, extract of suprarenal gland, getol, dermatol, etc. The author found in ferropyrine an excellent hemostatic in slight hemorrhages, used in a five-per-cent solution of gelatin. If no success follows the application of the above methods, tamponade should be resorted to, but only as an ultimum refugium, and with great caution in the case of small children, as in the latter the tampon causes obstruction of deglutition and breathing and may lead to complications in the ear. As a preventive against subsequent hemorrhage, complete rest for several days after the operation should be insisted upon.

### Surgical Hints.

The May number of the *International Journal of Surgery* contains the following:

If possible, never allow a patient who has been operated on, and who requires dressings, catheterization, or any other steady attention, to be placed in a wide bed. It is harder to keep a patient still in such a bed, and very difficult to attend to them properly.

Young children hardly ever suffer from hemorrhoids, and bleeding at stool, in the absence of symptoms of dysentery, is nearly always caused by the presence of a polypus. This may often be discovered upon digital examination, and then must be removed by tying off through a speculum.

In cases of paroxysmal pains in women, recurring at intervals, and giving no very marked symptoms of any distinct affection, and particularly if there is no evidence of inflammatory disturbance, it is always well to think of the possibility of hysteria. This disease has been known to simulate appendicitis, renal and hepatic colic, and many other surgical affections. In many cases operations have needlessly been performed when the trouble was entirely hysterical.

In all cases of emergency operations, it is indispensable to look into the condition of the patient's bowels. If they have been constipated before the operation, and this is not at once relieved, they will often become feverish, with a high pulse and temperature, and the appearance of the wound will be unfavorable. All these symptoms will often disappear after a free evacuation. It is well to make it a rule, in any emergency case, to give a copious enema before operating whenever this is possible, and to follow this with purgatives.

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## Surgery of the Heart.

H. L. Nietart (*Philadelphia Medical Journal,* May 3, 1902) says that from his observations in the suturing of heart wounds gentle manipulation may be applied without producing shock. The introduction of the suture produces but a slight irregularity in the heart's action, and the wounds heal rapidly. Intrapericardial pressure is increased even if hemorrhage occurs during diastole alone. All heart wounds in which there is danger of fatal hemorrhage should be sutured. If the wound does not involve the pleura, the extrapleural route should be employed. If the pleura has been injured, the intrapleural method should always be employed, and the flap devised by Rotter is the best. Although it is advisable for the surgeon to familiarize himself with the methods of operation and the flaps devised by the general operators, a thorough knowledge of the anatomy of the region is most essential, and each operator should modify the flaps as best suits his case.

## Idiopathic Dilatation of the Esophagus.

Rosebheim, at a recent meeting of the Berlin Medical Society (*Medical Press,* April 23, 1902), spoke on this condition. He said the affection is much commoner than is supposed. He has seen nine cases, five during the last two years. Recognition of the disease is very important, as when it has existed for long it is incurable, but if treated early enough it can at least be materially improved. As far as his observation went the sufferers were mostly young men. Trauma was given as the original cause, a blow on the chest, or the swallowing of too hot or too large mouthfuls. It is certain that for the affection to arise two disturbances of innervation are very important: (1) atony of the esophagus itself, and (2) cardiospasm. Whether both together are necessary is at present doubtful, but he believes that either by itself might lead to the condition in question.

The diagnosis is at first difficult, for the reason that the disease begins with ill-defined gastric symptoms, lasting for years, and defying all treatment, until finally the difficulty in deglutition attracts attention to the esophagus. Three patients complained for years of gastric cramps, even when both stomach and esophagus were empty. Occasionally attacks of shortness of breath came on which were not necessarily in immediate connection with the condition of the sac as to fulness, but came on even when it was only moderately full, and remained absent when it was quite full. In any case the only means of cutting the attack short is to wash out the sac. Patients are frequently disturbed in the night by shortness of breath and coughing; in the horizontal position the contents of the sac run over and pass into the larynx, but this might happen even when the position is erect. There are also fetid belching, heartburn, eructations, nausea, vomiting, and similar ill-defined symptoms. In passing a sound the condition is sometimes determined by feeling the sound to move unusually freely in the esophagus, but it is more typical when fluid escapes even before the tube has reached the stomach, the material containing no hydrochloric acid and no products of digestion. The differential diagnosis between diverticulum and dilatation is difficult, but of no practical therapeutical importance. The prognosis as to complete restoration is in the case of a large sac unfavorable. If the disease is not of long standing, not more than one or two years, a good deal of improvement may be hoped for.

In treatment it must be borne in mind that the sufferers are mostly exhausted, neurasthenic people, and that the disease is, therefore, a partial symptom of the neurasthenia.

Treatment is symptomatic, but properly carried out, of unmistakable benefit to the condition. Emptying and washing out of the sac are important. Washing out with carbolic acid acts favorably on the atony. Of medicaments that act as deodorants or disinfectants, nitrate of silver is the best, either by washing out with a one- or two-per-cent solution, or swabbing the walls of the sac with a ten-per-cent solution. As regards diet only general hints are given. In cases of cardiospasm it is dangerous to force the sound through; rest in bed, opium, and regulation of the diet are better. In case of narrowing of the cardia a fine sound is to be introduced, with a hollow ball at the end. When through, this should be filled with water and withdrawn. When this is done a few times, further progress can then be made.

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### The Prognosis of Pleurisy with Effusion.

K. C. Cabat, at a recent meeting of the Association of American Physicians (*Medical Record,* May 10, 1902), presented a communication which was based on a study of 300 cases. He had experienced the usual difficulties in tracing the cases, only one-tenth of them having been found by letter. Then, by calling at the original addresses and making inquiries of the neighbors, many more had been traced. Some help had been derived from the records of the department of vital statistics, and from those of the overseer of the poor. He thinks his method of tracing patients very useful and satisfactory. He has traced 152 cases; of this number eighty have remained in sound health. Those in sound health for fifteen or twenty-one years are twenty-one; those for ten to fifteen years, twenty-three; those for five to ten years, thirty-six. In other words, eighty per cent of the cases of uncomplicated serous pleurisy were in good health for over five years, and ninety per cent in fair health for a period of from two to five years after the pleurisy. Fifteen per cent of the cases developed sooner or later a demonstrable tuberculosis of the lungs, but in three per cent tuberculosis manifested itself within two years after the pleural effusion. The attack of tuberculosis in these cases was, as a rule, mild and of slow progress, death not occurring for five years or more after the pleurisy in half of the cases developing tuberculosis. Nevertheless, a very rapid

form of tuberculosis might develop many years after the pleurisy; in this series two such cases developed ten or fifteen years after the pleurisy. A study of the clinical records of the whole group shows that of those remaining in perfect health for five years or more, only one-fourth gave a family or past history of tuberculosis, while of those known to have become tuberculous, two-thirds had a marked family history of that disease. A careful history was, therefore, of great importance in making the prognosis of a case of pleural effusion. On the other hand, the physical signs in the course of convalescence from the pleurisy were in no respect different in the cases in which tuberculosis subsequently developed from those which remained in good health. The history was, therefore, of greater importance than the physical signs. Reaccumulation of fluid immediately after tapping had been rare, occurring in only 1.3 per cent of the series. Among the fourteen patients who, after recovering from the pleurisy, died of some other disease, not one developed a disease which could be reasonably considered as connected with the pleurisy.

In conclusion, the speaker called attention to the fact that no attempt had been made to discover what percentage of the cases was due to tuberculosis. So far as his statistics went, they might all have been of tuberculous origin. He only desired to call attention to the fact that the outlook is bright in cases of pleurisy not having a family history of tuberculosis, and that even if pulmonary tuberculosis develops subsequently, the type of the disease is unusually mild.

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## Splenic Anemia.

At a recent meeting of the Association of American Physicians, Wm. Osler (*Medical News,* May 3, 1902) said that he desired to bring out if possible the existence of a distinct type of disease, which might be set apart from any of its congeners by the presence of a distinct and clear-cut syndrome. The symptoms were anemia, of a chloroanemic type, marked chronicity, extending over many, many years, with distinctly enlarged spleen; hemorrhage from the stomach; at times pigmentation of the skin; and, in the later stages of the disease, the development of an ascites or a cirrhosis. He reported a classical history of a case which would represent the type. With reference to the subject of chronicity he said that the disease might exist during

a period of at least ten or twelve years; the longest record was one of twenty years. The spleen might be as large as a leucemic spleen, with no increase in size or number of the general lymphatic tissues. The blood-changes are of the chloroanemic type. There is a leucopenia with greatly reduced amounts of hemoglobin, and with a comparatively normal number of erythrocytes. The hemorrhages are usually into the stomach, occurring sometimes early and sometimes late, and again at times in other locations. This hemorrhage seems to be explained on the ground of the close anatomical relationship of the stomach to the enlarged and engorged spleen. He had noted pigmentation of the skin in seven patients: it was of a peculiar grayish tint suggestive of argyria; sometimes it was mottled. In the later stages of the disease involvement of the liver may occur, with increase or diminution in its size, with jaundice and ascites. At the present state of our knowledge these anemias are in an extremely unsatisfactory condition so far as accurate demarcation is concerned. They make a very motley group. They are to be delimited from the pernicious anemias, cirrhosis, syphilis of the liver, Hodgkin's disease, and a number of other conditions. Their treatment is far from satisfactory. Splenectomy has seemed to prove of service for some patients, but not in others.

In the discussion Drs. Musser and Billings reported cases, considering the disease rare. Dr. Cabot gave the results of his experience, and was inclined to the belief that no special group, such as Dr. Osler might seek to pick out, really existed as a disease entity. The low relative percentage of hemoglobin has but little significance in his mind. The low white count is peculiar, but not sufficiently so to be of service in making a type. Dr. Stengel gave the histories of two patients suffering from what has been termed Banti's disease.

## THERAPEUTICS.

### Chilblains.

Courtin (*Medical Press,* April 16, 1902) employs with constant success oxygen water in the treatment of chilblains, ulcerated or otherwise.

In young children he reduces the oxygen water, which is always at twelve volumes, to three volumes by adding hot boiled water. The hands or feet affected are plunged into this bath every day for half an hour.

For older children and adults the strength of the bath given is six volumes. If any of the cases present ulcerations, a saturated solution of borate of soda is added to the oxygen water in order to reduce the acidity and diminish the pain from the application.

The feet and hands blued by the chilblains become red after a few moments of immersion; the sores commence to granulate after two or three days, and heal rapidly. After the bath the sores are dressed with gauze and antiseptic vaselin.

Three baths of half an hour each suffice to cure ordinary chilblains. A large number is necessary in the case of ulceration.

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## An Investigation of Solanum Carolinense, with Reference to its Special Value in the Treatment of Epilepsy.

From his investigations in the use of *Solanum Carolinense* in a case of epilepsy, M. C. Thrush (*Philadelphia Medical Journal,* May 3, 1902) has drawn the following conclusions:

1. It is of greatest value (probably better than any one known remedy) in grand mal of idiopathic type without hereditary taint, and where the disease has begun beyond the age of childhood.

2. It is perhaps next of greatest value in hysteroepilepsy with marked convulsive seizures. In cases of petit mal the drug does not seem to do the great good that we have noted in the major type of the disease.

3. In cases of well advanced epilepsy of any type in which there is degeneration of the cerebral neuron, the drug will act specifically for a time even better than the bromides, but it will finally be determined that the bromide salts will ultimately control the attacks better in these cases.

4. The foregoing clinical study has brought out sufficient clinical evidence to warrant the statement that the inherent advantage of vegetable depressomotors is great as compared with any mineral salt given with the same intent, since destruction of the blood-corpuscles by the latter is a most detrimental feature toward lessening the resistance of the individual in a disease where, above all, the constitutional tonicity should be favored as ideal treatment.

5. A thorough impregnation of the nerve cells can alone be had, and therefore cure hoped for in epilepsy is in proportion as solanum is pushed to the fullest physiological dosage and main-

tained through periods of months, a year not being too short a time to warrant its discontinuance.

6. The fluid extract of the freshly made drug is the ideal form of pharmaceutical preparation, given in ascending doses, commencing with one fluidrachm and increasing to the full constitutional effect.

7. It is to be decidedly preferred to the bromides in those cases in which it can be used advantageously, because no toxic symptoms follow its free administration, and the mental faculties are not impaired by its use.

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### The Treatment of Phthisis with Blue Light.

Kaiser (*Wien. Klin. Woch.*, No. 7, 1902), after making a series of investigations on this subject, draws the following conclusions: (1) Tubercle bacilli in pure culture were killed in thirty minutes by the blue light at a distance of five meters, while they survived the equal illumination by an ordinary arc lamp. (2) Tubercle bacilli in pure culture were pasted on a patient's back, and the blue light was directed on to the patient's chest at a distance of five meters for thirty minutes; this was repeated for six days. The bacilli were "weakened." (3) Pure culture of tubercle bacilli were illuminated by a light concentrated through a hollow lens containing a solution of alum and methylene blue with ammonia; they were killed. (4) The same lens was used, and the light was split up into the spectral colors by means of a carbon disulphide prism. Cultures lived in red and yellow light, but were killed in from blue-violet to ultra-violet. (5) A photographic negative with an unused film was pasted on a patient's back in such a way that all light was excluded. The film was illuminated through the patient's body, and a blurred "positive" was obtained.

Following these experiments Kaiser tested the blue light in two cases of advanced phthisis; after six days night sweats ceased and cough became less; after six weeks (up to the present) diminution of bacilli in sputum. In a case of tuberculous abscesses in the thigh and knee flexion, all treatment that had been applied before (for three months) failed to do any good; as a result of blue light there was healing of all abscesses in four weeks. A case of "weeping" eczema in a child of "tuberculous character" was cured in five weeks.

The author concludes that (1) blue light kills tubercle bacilli; (2) the heat rays are excluded by the hollow lens with cooling

arrangement; (3) action of the light is independent of the distance and intensity of the source of light; (4) the light can pierce the body sufficiently strongly—only the chemical rays do so; (5) pure blue light acts strongly as a resorbing agent; and (6) blue light has a local sedative action if the rays are concentrated, and may even produce anesthesia.

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### Prophylactic Injections of Antidiphtheritic Serums.

Netter, Bourges, and Bergeron (*Lancet*, April 19, 1902) have recently made some important researches into the prophylaxis of diphtheria by injections of antidiphtheritic serum. M. Sevestre, to whom was assigned the duty of inquiring into the investigation on behalf of the Paris Academy of Medicine, made his report at the meeting of March 18. He agrees with the above named three observers in being favorable to the use of the injections. He considers them to be efficacious, and from the facts before him draws the following conclusions: Preventive injections of serum have a manifest action: they immunize children exposed to the infection of diphtheria. They have up to the present never given rise to any serious consequences. At the most they produce in a certain number of cases a fleeting eruption, and very rarely pains in the joints. Unfortunately, the period of immunity does not last long, only for three or four weeks at the most. In those rare cases where, despite the use of injection, diphtheria has been contracted, the attack has been very light. These injections are especially called for in families where a case of diphtheria has developed for the protection of the remainder of the family, although if the children can be kept away from the affected person and can be under the surveillance of a medical man near at hand the injections may be dispensed with in their case. Preventive injections are equally called for in circumstances where children are massed together, such as in schools or hospital wards where a case of diphtheria has occurred. Even where there is no diphtheria these injections are useful in cases of scarlet fever or measles. In the latter disease the prophylactic action of the serum seems uncertain, and the injections ought to be given in increased strength and at shorter intervals than in other diseases. The injections do not do away with the necessity for other preventive measures, such as disinfection and isolation, but by their use the carrying out of the ordinary measures is rendered easier and of more effect.

## RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

### Local Anesthesia with Twenty-five Per Cent Alcoholic Cocaine Solution.

Wroblewski, of Warsaw (*Frankels Archiv für Laryngol.*, Band xii, Heft 3), has made use of a solution of this character in all the usual surgical procedures about the nose and throat with gratifying results.

To make a solution, the alkaloid is first combined with a few drops of water, then the necessary amount of alcohol added. Or alcohol may be mixed with the alkaloid and mild heat applied.

In more than fifty cases in which Wroblewski has used this solution in children and adults, he has not once observed any of the disagreeable symptoms which frequently ensue after the use of the watery solutions. He found the anesthesia was more complete, more quickly attained, and in every way more satisfactory. He expressed the opinion that probably the alcohol acted in a measure as an antidote to the constitutional effect of the cocaine.

The solution is applied by means of a cotton applicator, two or three applications at intervals of one or two minutes. At the first application there is a transitory burning sensation. In the case of very sensitive patients this may be overcome by first applying to the part a five-per-cent watery cocaine solution.

The advantage of the alcoholic solution from the standpoint of asepsis is not to be overlooked.

### Affections of the Eye in Nasal Tuberculosis.

Hinsberg, of Breslau (*Zeitschrift für Ohrenheil.*, vol. xxxix, No. 3), in nine patients with nasal tuberculosis, found cases in which there was secondary invasion of the tear-ducts. This gives further emphasis to recent claims of Seifert that there is likely to be infection of the eye in every case of nasal tuberculosis. The latter author found this to be so without exception in fourteen cases of tuberculosis of the lacrimal canal.

To attain permanent good results the treatment must be kept up a long time, when possible for a year; the patient coming under treatment a few days each month so as to destroy any new foci of infection which may develop.

### A Primary Tubercular Infection of the Nose.

Hinsberg (*Zeitschrift für Ohrenheil.*, vol. xxxix, No. 3) reports much success in treating the nasal affection with lactic acid. He places a cotton tampon saturated with an eighty-per-cent solution in the nose, not only covering the lesion but the adjacent area as well. This he leaves in position for a considerable time, up to three hours. This application is repeated daily, previously removing the slough resulting from the etching of the last treatment, so far as may be done.

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## OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

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### Resection of the Cervical Sympathetic Ganglia in Glaucoma; Its Present Status.

W. R. Marple (*Medical Record*, May 10, 1902) says that the operation of extirpation of the sympathetic ganglion is a safe procedure in the hands of a skilful surgeon. While (as Ziehe says) the material is not yet sufficient to reach a positive conclusion as to the permanence of its effect, it is nevertheless established that some of the glaucomatous cases have been improved for some months by resection; in others the condition apparently remains stationary. The results have varied, and one cannot yet be sure in what cases it can be advantageously employed. It at least, apparently, does no harm. A considerable number of favorable results have been reported in chronic irritation or inflammatory glaucoma, as well as in simple glaucoma, in which oftentimes pain is abolished.

It does not replace iridectomy, but may possibly supplement the latter, in case this is refused or has already resulted disastrously in the other eye; or is contraindicated, as in hemorrhagic glaucoma, dacryocystitis, etc.

Until our cases are observed more carefully and for a longer period of time, it will be impossible to arrive at positive conclusions as to the indications for the operation, or as to its permanent results.

## DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,

Lecturer on Dermatology, Detroit College of Medicine.

### Two Cases of Rare Bromide Eruption.

In the *Journal of Cutaneous and Genito-Urinary Diseases* for May, 1902, Dr. T. F. Wallhauser, dermatologist to the Newark City Dispensary, records the following:

*Case 1.*—Female, aged fifteen, native of Austria, in good health until May, 1895, when she received a slight injury to her right index-finger, from which time her illness dates. She became melancholy; this condition being followed by violent fits of hysteria, for which she received bromide of potash in ten-grain doses every three hours. The eruption, located on both lower extremities, appeared about the third week of treatment as small vesical papules, oozing and drying in yellowish-green crusts surrounded by a zone of inflammatory redness. The papules were disseminated and grouped, running together in places to form large patches. The crusts were very characteristic, yellowish-green in color; in thickness varying from one-sixteenth to one-fourth inch, irregularly circular in outline. The surface was traversed by deep sulcated lines, especially marked where patches formed. On removal of the crusts, which were firmly adherent, there presented numerous bleeding points corresponding to the papillæ, which were greatly hypertrophied.

*Case 2.*—Female, aged thirty-six; has been subject to attacks of epilepsy for several years, for which she has been taking a proprietary medicine. The eruption appeared about one year after beginning this treatment. The lesion, which is extremely painful, is located on the lower extremity below the knee, and involves almost its entire circumference. It presents numerous fungating masses, limited to the border. The central portion of the lesion is pigmented, and composed of numerous smooth, rounded papules, marking the site of previously existing fungoid masses. On the outer edge of the border and immediately outlying are numerous superficial vesicular and pustular lesions in various stages of formation, which mark the character of the formation of the patch. They begin as small as pin-point vesicles, generally around hair follicles, and enlarge to about the size of a split pea or more, becoming purulent as they advance. On rupturing the enlarged papillæ are seen, which continue to enlarge, taking on the character of a granuloma. This process

is continued for a period of from four to six weeks, when resolution begins as a shrinking of the fungoid masses. The epidermis finally covers the enlarged papillæ, forming the papules seen in the center of the patch. In some portions of the lesion these papules have entirely disappeared, leaving the skin smooth and shiny.

The treatment consisted in keeping the lesions bathed in ol. lini. and aq. calcis, equal parts, applied on sheet lint, which aided in the removal of the crusts and relieved pain. Case 1 recovered in seven weeks, Case 2 in ten weeks, after the bromide was discontinued.

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## GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

Adjunct Professor of Obstetrics, and Professor of Clinical Gynecology, Detroit College of Medicine.

### Statistics of One Hundred Cases of Abortion.

At a recent meeting of the Paris Obstetrical Society Blondel read a paper embodying the results of one hundred cases of abortion which had occurred in his private practice during a period of twelve years. Of all these cases not one had proved fatal, a fact which Dr. Blondel explained by saying that in private practice the medical attendant is called in by his patient at a much earlier date than that at which a hospital patient applies to the hospital. Some of the cases, however, were very grave and showed signs of a general infection with commencing peritonitis. The number of the grave cases was thirty in all; in six of these there was profuse hemorrhage, in nineteen the uterine adnexa were affected by inflammation, in five there was diffuse suppuration, which was relieved in four cases by an opening being made through the vagina, and in the other case by spontaneous evacuation into the rectum. In three cases chronic salpingo-ovaritis occurred, and two of these were treated without operation, while one was treated by an abdominal salpingectomy.

The treatment consisted in a thorough curetting, first with the finger and afterward with a curette; in swabbing out the uterus with glycerin of creosote of a strength of one in three; in injections of tincture of iodine; and in a gauze drain, the gauze being dipped in glycerin of ichthyol of a strength of one in ten. This drain was renewed every two days, and when it was changed

the uterus was well flushed out by means of Dr. Blondel's sound, a solution of corrosive sublimate being employed. No outward results were noted.

From the clinical point of view these one hundred cases of abortion were divided into eight at the third month, and ninety-two at a later date. At the fourth month there were fifty-nine, at the fifth month twenty-eight, and at the sixth month two. The greatest number occurred between the thirteenth week and the seventeenth week. On eight occasions when Dr. Blondel arrived he found abortion threatening or just begun, on eighty occasions the fetus was already expelled, on sixty occasions the placenta was expelled as well, and on twenty occasions it was altogether, or almost completely, still within the uterus. As regards the etiology among the one hundred cases, eight were obviously due to syphilis and five were probably so, one was due to a carriage accident, one to malaria, and one to tuberculosis; fifty-two were confessedly purposely procured, and twenty-six had probably been so, as septic infection was present. One case was due to an error in diagnosis.

The fifty-two cases of purposely procured abortion were divided up as follows, according to the statements of the patients, which, however, it must be remembered, are by no means trustworthy: On twenty-two occasions the operator was a midwife, on two occasions a medical student, on one occasion a medical man, on one occasion a pharmacist or pupil in pharmacy, on six occasions a "lady friend," and on one occasion the husband of the patient. Nineteen of the patients said that they had operated on themselves, in five instances by taking medicine (?), and in fourteen instances by manipulation, nine times by injections of soap, three times by violent exercises, once with a knitting needle, and once with a bone knitting pin.

As regarding the midwives, the patients made the following statements: In three instances the name and address of the midwife had been obtained from an advertisement in a newspaper. Two midwives continued to visit the patient unknown to the medical attendant in the intervals between his visits. On fifteen occasions the midwife used a steel sound, and on ten occasions a gum elastic catheter and an injection. This last method was extremely painful, and on two occasions brought on an attack of syncope. In no case, even when there was no doubt that instrumental interference had been employed, did Dr. Blondel detect any wound or abrasion of the cervix enough to swear to as evidence of criminal procedure. Abortion came on generally within eight days after the operation. Two patients made two

visits to two different midwives, the first having done nothing but swindle the patient. Dr. Blondel mentioned one case that he knew of in which a woman whose menses had not appeared paid a large sum of money to a woman to procure abortion for her. The woman went through various complicated procedures, but the patient was not pregnant at all.

Dr. Blondel concluded by saying that in every case where he suspects that criminal intervention has taken place he is accustomed to disinfect the uterus thoroughly, even when no sign of sepsis is present. An unnecessary cleansing, if properly performed, does no harm even if it does no good, but if the cleansing process is put off till late the time quickly arrives when no operative measures can ward off septicemia.

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### Treatment of Fibroid Tumor—The Conservative Surgery of the Uterus and Adnexa in the Treatment of Fibromata.

Dartigues (*Thèse de Paris; Philadelphia Medical Journal,* May 3, 1902) gives a detailed description of cervicovaginal hysterotomy, the method adopted by Segond for the vaginal enucleation of sessile submucous and interstitial fibroid tumors. He remarks that the possibility of enucleating fibromata from the muscular tissue of the uterus was recognized by Velpeau in 1833, and that some years later the idea was carried out by Amussat, who divided the cervix on each side, drew down the uterus, and when the fibroma was a large one, bisected it, so as to be able to shell out the two portions successively. Like many other operations conceived before the era of antiseptics this also soon fell out of practice, and was only occasionally done up to the time when morcellment as employed by Péan materially enlarged the possibility of enucleation. Nevertheless, vaginal myomectomy by morcellement was very soon almost entirely superseded by total hysterectomy, vaginal or abdominal.

There has of late years occurred a reaction in favor of the more conservative operation, and Segond has become convinced that very many uteri submitted to morcellement might well have been treated in a less radical manner. He has come to consider lateral cervicovaginal hysterectomy to be the operation of election, inasmuch as it admits of the enucleation of tumors situated very high up, and the morcellement of interstitial masses weighing as much as one thousand or twelve hundred grammes, while it does not expose the ureters to danger, nor does it, like median vaginal hysterectomy, require the detachment of the bladder or

the opening of the peritoneum. In Segond's method the division of the cervix through the labial commissure on one or both sides is limited in extent by the accessibility of the tumor, but must be carried far enough to afford sufficient room, and is made without any thought of preventive hemostasis as regards the uterine artery. The cervix is first drawn down through the vulva, the commissure being divided on one side with scissors up to or beyond the isthmus, the wound encroaching, if necessary, upon the corresponding side of the corpus uteri for nearly the entire length. If the operation is bilateral, the transverse cervicovaginal hysterotomy divides the uterus in its lower segment into two halves, which allows the ready introduction of the finger on the instruments. The second stage of the operation comprises the exploration of the uterine cavity followed by morcellement of the tumor, which is exposed by placing its capsule on the stretch. This, the third stage of the operation, is probably the most difficult, since it is necessary to distinguish between the touch of the fibroma and that of the uterine muscular tissue in order to avoid cutting down upon the intestine. The toilet of the uterus follows. The cavity and depressions from which the tumors have thus been enucleated are carefully plugged with strips of sterilized gauze, and the operation is concluded by suturing the cervix, unless it be preferred to leave the cavity gaping for the sake of free drainage.

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### Toilet of the New-born Infant.

The following routine is recommended by Riva-Rocci (*Gaz. Med. Ital.*, Jan. 31, 1902): (1) Insert the little finger in the mouth as far as the larynx and remove any mucus or foreign body there. (2) With 1-in-5000 solution of perchloride and a tampon of sterilized wool wipe the outer surface of the eyelids; with a second tampon rapidly moisten the conjunctival sac with a few drops of this solution, and carefully dry the external parts; as a rule no reaction occurs beyond a slight redness for a few hours. (3) With a third tampon cleanse the anterior nares; gonococcus infection here is not uncommon and is very intractable; a nasal douche has been suggested, but has its risks, and the author considers the other method efficient. (4) The bath should be of pure water: alkalies, soaps, and disinfectants are all irritating to the infant's skin; the only addition permissible is Unna's superfatted soap; the bath should be at a temperature of 95° F., so as not to produce cutaneous hyperemia and consequent nerve symptoms (in one case only is a hotter bath

permissible, namely, in an asphyxiated child in whom the ordinary means of stimulating respiration have failed; it should then be given at 100° F.; the bath may last ten or fifteen minutes, if needed for cleansing. (5) Dry the child with warm cloths, but not too hot, a mistake often made; for rapid drying, sheets of absorbent cotton are excellent. (6) Powder the child with a fine absorbent powder, perhaps sterilized; an excellent one is Venetian talc and powdered starch, of each 1¾ ounces, crystallized carbolic acid ¾ grain, essence of lemon 10 minims; the whole affair should be evenly powdered, avoiding excess at any part.

## NEUROLOGY.

UNDER THE DIRECTION OF CHARLES W. HITCHCOCK, M.D.,
Attending Neurologist to Harper Hospital, Detroit.

### Traumatic Encephalitis.

H. P. Frost (*American Journal of Insanity*, January, 1902) says that violence inflicted upon the skull frequently results in small lesions upon the base of the frontal lobes, at the apices of the parietal or occipital lobes. At these areas destruction of the tissues is shown by hemorrhagic infiltration of the tissue and all stages of encephalitis. From these foci of destruction later appear scars and other defects with cicatricial investment.

The presence of such scars may be taken as an indication of previously sustained trauma. Diminutive cicatrices with numerous areas of hemorrhage may be assumed to be of traumatic origin. They appear as small contractions or depressions.

The extravasated blood may be entirely reabsorbed or remain in the form of pigment deposits, or of colored amorphous masses.

Rigidity of the neck and forced positions of the body indicate meningitis and suggest lesions of the base of the brain.

Coma and spasm, followed by death, may appear suddenly in traumatic cases from minute areas of destruction of local cortex.

Symptoms of sudden irritation of the brain and of general mental degeneration may develop after injuries to the head which showed few symptoms at the time.

The brain may be injured by an accident affecting the buttocks or extremities.

Dementia post-traumatic may be distinguished clinically, though often with difficulty, from dementia paralytica.

Universal changes in the blood-vessels occur in such cases of traumatism.

# THE MEDICAL AGE

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## ORIGINAL CONTRIBUTIONS.

### SURGICAL TREATMENT OF NEURITIS.*

BY WELLER VAN HOOK, M.D., CHICAGO.

Surgery is in a position to be of service rather in the treatment of the consequences of neuritis than in the management of the actual disease itself, whether in the acute or in the chronic form. In the acute form of the disease, aside from those instances in which a suppurative lesion is present, very little can be done by surgical means for the relief of the patient excepting possibly to afford some aid by rest. Orthopedic appliances may be of assistance in this way, particularly where the acute forms are passing over into the chronic, and where it is desirable for the patient to be allowed to leave the confinement of the bed.

Of course, where pressure upon a nerve is superinducing neuritis or neuralgia the case is widely different. These cases belong strictly within the province of surgery. Where fractures primarily or secondarily involve large nerve trunks, operative procedures are frequently needed; for example, where a fractured clavicle presses upon the brachial plexus, relief by elevating the fragments and separating the connective tissue from the nerves is an absolute necessity. Not infrequently, as is well known, the long bones, when fractured, similarly press upon important nerve trunks.

In open injuries, where infection is likely to occur, the utmost care must be taken by the surgeon to prevent infection of the wound, particularly where large nerve trunks are likely to be involved. We may have here not only inflammation of connective tissue around the nerve involving the nerve trunk in adhesions, but it is also possible to have from such a wound a migrating neuritis successively involving different nerves. This form of neuritis, which has frequently been denied by clinicians, is

*Read before a joint meeting of the Chicago Medical and Neurological Societies, April, 1902.

supported as a nosological entity by Krehl, who maintains that well marked cases of the disease have frequently come under his observation.

In the chronic forms of neuritis surgery is of more frequent avail. The glittering promises which were made some years ago for good results to follow stretching of large nerve trunks have scarcely been realized. It has been demonstrated by clinical as well as by experimental study that far-reaching consequences follow the stretching of large nerve trunks. The lesions are prone to extend into the spinal cord, or into the brain, as the case may be. For this reason, at present, surgery is very conservative in the matter of applying nerve stretching in all forms of chronic peripheral neuritis.

Of course, in those forms of chronic neuritis in which a demonstrable pathological process, as leprosy, is going on, it is admissible, as has been done by Kramer, to cut down upon a nerve and scrape away or excise the portion of the nerve trunk which is diseased. In Kramer's case, which was carefully observed, immunity from recurrence was quite prolonged.

It is in the treatment of the consequences of peripheral neuritis, as already remarked, that surgery finds the greatest scope. In compression of nerve trunks by periostitis, it is quite admissible to remove the connective tissue around the nerve, as has been frequently done, an operation which is termed neurolysis. Where neuralgias are due to periostitis pressing upon a nerve trunk, as, for example, in the case of the inferior maxilla, it is desirable to chisel away that portion of bone which confines the swollen periosteum and causes it to press unduly upon the nerve trunk. The commonest form of compression is probably by the action of exuberant callus. It is the usual practice here to excise the new-formed bone material from about the nerve, and results have been excellent.

Tumors of a non-malignant character that press upon large nerve trunks, producing more or less of an inflammatory condition, would be subject to attack by excision, while perhaps those which are of malignant character might demand removal of the whole or part of the nerve itself.

The method which one should pursue in the treatment of hemorrhages within and about nerve trunks is yet open to difference of opinion. Where a large nerve trunk is involved in an effusion of blood, undoubtedly the substitution of a clot by connective tissue from the neighboring structures is likely to result in fixation and compression of the nerve, which may be fatal to its function. We have not as yet succeeded in laying

down definite rules for the management of cases of this kind. It may be safely said, however, that in case a considerable period of time has passed after such an injury, and in case of permanent compression of the nerve, an open operation is quite admissible.

Many cases have been reported in which nerves became inflamed to a greater or less degree as a result of fixation as well as of compression. Witzel maintains that the cause of pain in amputation neuromas is rather due to the fixation of the nerve trunk than to the compression of the end of the nerve. However this may be, it is well worth while for us to endeavor, in a case of amputation, to remove the end of the nerve as far as possible from the wound itself. Neurolysis is indicated where fixation has occurred in amputation stumps.

In the case of chronic inflammation producing neuralgia in the narrow sense of the word, we have a variety of surgical procedures at our disposal. The stretching of chronically inflamed nerves is no longer practiced so freely as was formerly the case; nevertheless, in cases of true neuralgia of the sciatic nerve, Hoffa recommends in selected cases the stretching of the nerve, at first by the subcutaneous method, and later, if necessary, by an open procedure.

The method of extraction of the nerve, exæresis, at first practiced by Thiersch, is still in very common use. Undoubtedly the majority of cases of neuralgia of the trigeminus can be cured by exæresis, and it is by no means necessary or desirable that the Gasserian ganglion should be excised in ordinary cases of this disease. On the contrary, this formidable and dangerous operation should be reserved for those cases in which peripheral operations have been thoroughly tried.

When paralysis is a consequence of neuritis, surgery offers relief in many instances by transplantation of nerves or of tendons. Results obtained by this modern method of treatment are very gratifying.

The French school of surgeons, at the head of which is Chipault, have of late shown much enthusiasm in the management of many cases of peripheral nerve disease, particularly of the trophic varieties, by stretching. It is claimed by Chipault that *mal perferant* of the foot can be favorably influenced in many instances by the stretching of the nerves of the leg. It is particularly where the sciatic has been injured, or where it has been involved in inflammations of the thigh, that nerve stretching has seemed to be of service in *mal perferant.*

## ABORTION AND MISCARRIAGE.

BY T. N. WILLIS, M.D., LOUISVILLE, KY.

This is a subject in which good judgment must be displayed in order to meet the emergencies of the case properly. The physician who takes an optimistic view of all cases of abortion and miscarriage will soon find out to his sorrow the futile failures which confront him.

In abortions and miscarriages we have a complete separation and expulsion of the contents of the pregnant uterus. When occurring before the eighth lunar month of uterogestation, abortion or miscarriage is the term ordinarily employed, but subsequent to this period it is designated premature labor.

As an accident of pregnancy, abortion is far from uncommon, although its relative frequency as compared with that of completed gestation has been very differently estimated by obstetricians. However, it is an agreed fact that it is more likely to occur in the earlier than the latter months of pregnancy; and it is also more likely to occur at the time corresponding to the menstrual discharge.

I shall now proceed to discuss, to some extent, the causes of abortion and miscarriage. Abortion may be induced by some of the following causes, both of a general and local nature: First, malformation of the pelvis; secondly, accidental injuries; thirdly, disease and displacement of the uterus; fourthly, various morbid conditions of the ovum or placenta leading to death of the fetus. These are some of the most potent local causes of abortion. The general causes embrace certain states of the system which are apt to exercise a more or less direct influence on the progress of uterogestation: First, deteriorated condition of the health, whether hereditary or as a result of habits of life; secondly, syphilis is known to be a frequent cause of death of the fetus; thirdly, many acute diseases arising in the course of pregnancy act as a direct exciting cause of abortion or miscarriage, more particularly the eruptive fevers and acute inflammatory troubles. Prolonged irritation in other organs, by reflex action, excites the uterus to expel its contents. Strong impressions made upon the nervous system, as by sudden shocks and mental emotion, may have a similar effect. The experiments of Brown-Sequard show that anything interfering with proper oxygenation of the blood may cause the uterus to expel its contents. Many abortions occur without any apparent cause, but in such instances the probability is that some morbid condition of the uterus exists.

Criminal abortion may be induced by the administration of

certain drugs known to have an oxytocic effect, the names of which it is not necessary to mention, or by the use of dilatation or probe or a combination of the two. I deem this sufficient as to the causes of abortion and miscarriage.

The next part of the subject to which I wish to call your attention is the symptoms: First, death of the fetus; secondly, pain; thirdly, hemorrhage; fourthly, rupture of the amniotic sac and escape of the waters. If it can be established that the fetus is dead, the abortion will occur in one or two weeks. Pain is not so significant as bleeding. If hemorrhage is great or persistent, abortion is almost inevitable.

We now come to the most important part of the subject, that of treatment. The course to be pursued depends upon cause, symptoms, and situation. First it is our duty to prevent abortion or miscarriage, and with this object in view we proceed to procure rest, quiet, give opiates, antispasmodics, use cold applications, etc., as indicated.

In some cases of threatened abortion the administration of ergot seems to act as a uterine tonic, and to avert the danger of abortion and miscarriage, provided the ovum be not blighted; if, however, the ovum be blighted, and especially if it be detached, ergot usually hastens its expulsion. This is a claim made by a distinguished obstetrician.

The palliative treatment is determined by the time at which abortion occurs, by the symptoms, cause, situation, and conditions existing. As to time of abortion, treatment in the first two months differs from that after formation of the placenta. In the first two or three months little or no interference is demanded. If hemorrhage is prolonged it will rarely be dangerous in quantity; if from a vegetative or spongy condition of the endometrium, the curette must be used. After the placenta is formed it should be delivered in all cases where possible; but if the placenta is retained, and hemorrhage has ceased, uterus contracted, with no evidence of sepsis, there is much to be said in favor of conservative practice, giving nature a chance to cast off the placenta rather than to remove it by violence—and in the latter case taking the chances of not having the law of asepsis carried out to the fullest technique. If there is violent bleeding, or evidences of sepsis, then the uterine cavity should be cleansed at once by douche, finger, or dull curette.

Symptoms suggest treatment in proportion to severity. Active hemorrhage, great systemic disturbance, sepsis, etc., demand active interference. The opposite line of symptoms suggest a more passive or conservative management. The cause of abortion fre-

quently has considerable bearing upon the treatment to be instituted.

Abortion from disease in the mother, fetus, placenta, or membranes seldom demands much interference. Criminal abortion is by far the most troublesome, and very generally requires treatment, on account of retained secundines or the existence of sepsis. The uterus, as it were, is taken by surprise, and has no time to prepare for the evacuation of its contents.

The situation and conditions existing at the time will determine the course to be pursued. When in doubt as to whether the afterbirth is still in the womb, unless the symptoms are urgent, wait for further developments. If hemorrhage is severe, use of the tampon under strictest aseptic precautions is determined by the period of gestation; it is safe before the fifth month, and unsafe after the fifth month. If the lochial discharge is foul, but there is no fever, use vaginal douche and wait a short time, say a day or two. This may not be in accord with the ideas of some of the more advanced gynecologists, but I believe it is better to wait than to run the risk of infecting an already very susceptible cavity. If there is fever, tympany, and tenderness, then give a vaginal douche, dilate the cervix, use dull curette and intrauterine douche, and gauze drainage. The packing of the uterus with gauze after curetting is highly recommended by some, while others claim just as good results by not using gauze. This, however, must be left entirely to the judgment of the operator, and the distance from the physician to the patient must also be considered, as an alarming hemorrhage might occur, resulting disastrously to both the patient and the physician.

Just here I desire to say that the sulphate of quinine is considered to possess a distinct oxytocic action. It produces intermittent uterine contractions resembling the physiological ones. It will not produce abortion unless uterine contractions have previously commenced. Mr. Schwabe gives the result of seven cases of incomplete abortion treated with quinine. In every case he claims that the placenta was expelled at intervals varying from half an hour to fifteen hours after administration of the drug. The average time was four and a half hours. In three of these cases the placenta had been retained three to four days, and in each instance was expelled in a few hours. The dose is fifteen grains given in two portions of seven and a half grains each at ten-minute intervals.

Quinine is by no means a new remedy in uterine atony, though opinions are very much at variance as to its usefulness.

The remedy is quite harmless, and if it should fail, then other measures may be adopted.

These cases should never be left without a full explanation of contingencies which may arise. Be as sure as possible that you are right, and proceed accordingly. There is no doubt that there are a great many cases of uterine trouble existing to-day which are due to bad treatment, or no treatment at all, after abortion or miscarriage.

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## MILK, SALIVA, AND BLOOD FROM THE HORSE USED AS MEDICINE MORE THAN A THOUSAND YEARS AGO.

TRANSLATED FROM THE GERMAN BY C. H. HERRMANN, M.D., AMANA, IOWA.

This translation was taken from an old German book published at Frankfort-on-the-Main in the year 1582, consequently written over 300 years ago.

The author of the book commences his tenth chapter, after some other preliminary remarks, as follows: "I have collected the contents of this chapter from good writers of history," and at the end of the chapter says: "I have no doubt that if any one would try to find more about this matter (he means usefulness of the horse to mankind) in the history of horses than I have done, he would undoubtedly find it, but let us be satisfied with this."

"Horse-milk is good for many diseases. Varro[1] and Plinius[2] write about horse-milk that it purges and drives out the poison of men. Nicandor[3] also affirms it, but the milk must be from a mare which has the first colt. Plinius tells us: 'Horse-milk is very useful in apoplexy, when taken with the powder from the dried testicle of the wild boar.' Horse-milk is also good for the uterine pain in woman; it also drives the dead fœtus from a woman. Should a woman like to be pregnant, give her horse-milk to drink, but without her knowing it, and she will soon conceive."

"In epilepsy give horse-milk—it will cure. When you find pus in the urine from your patient, give horse-milk with honey—it will clean and heal the kidneys; finish the cure with cow's-milk."

"Drink horse-milk in wine for snake bite and other poison."

"Saliva from the mouth of a horse applied to spots of leprosy in the face will cure them."

"In phthisis pulmonalis, the best and most useful remedy,

even for those of whose life you despair, is to take the saliva from a horse and mix it with hot wine—give it to that person three succeeding days."

"For croup in children, take the saliva from the mouth of a horse which was fed with oats or barley, wash the mouth of the patient with it; afterwards take crawfish, pound them alive, take the juice from the mass and wash the mouth of the patient with it—it is a sure remedy."

"If any one has a severe pain in his ear, mix the saliva from a horse with Oleum Rosæ and drop it into the ear; it will relieve such pain."

"The blood from the tail of a horse caught in a vessel and drunk will drive off the worms."

"For chapped hands take horse-blood and rub them well; they will soon heal."

"To keep a wound or injury whatever and wherever it is suppurating, take the blood of a mare which has had one colt, put it into that wound or injury, and it will answer the purpose."

"Plinius tells us that 'horse-blood mixed with wine and taken internally is very good to cure jaundice; you can also mix it with other medicines. After setting a dislocated joint use horse-blood to strengthen that joint.'"

"For swelling and hardening of the spleen, take two table spoons-ful of dried and pulverized spleen of a wild horse; mix the powder with strong wine, it will cure."

"In a case of abortion give powdered horse-spleen; it will assist in freeing the woman from the child. The smoke of burning horse-hoof has the same action on the woman when she inhales it."

"A heated weapon cooled off in the sweat of a horse will poison it, and if anybody is wounded with that weapon the bleeding cannot be stopped."

"Horse-sweat with urine drunk in a bath will drive a snake out of a person should there be one in him."

"Take the horny warts which grow inside on the leg of a horse, also on the hind legs, pulverize them, mix with wine or met (honey-wine), give it forty succeeding days, and it will cure gravel; it will also drive a dead child from a woman."

"The same horny warts powdered and taken in vinegar is very useful in apoplexy. The same powder mixed with some oil and put into the ear will cure toothache. This powder taken internally is also good for the bite of wild animals; it makes no difference what kind of an animal it has been. The same powder mixed with vinegar or met helps those with the falling sickness (epilepsy)."

"Horse's hoof ashes mixed with the saliva from a horse's mouth and applied to the red spots in the face will drive them away. Horse's hoof burnt to ashes and taken in wine cures gravel."

"Should anyone have an abscess at the inner and upper part of his leg *probably* (psoas abscess), he may take horse hoof ashes, mix it with oil or water, apply on the abscess; or you can take the blood of a stallion and rub it on the swelling, the abscess will open and soon heal. For goiter use the same ointment—it will (cure-heal)."

"In case of frost bites, especially on the feet when they break, take bear fat mixed with powdered horse-teeth, cover the sores with this ointment, and they will get well."

"For snoring during deep sleep take the tooth of a stallion, put it under the head-rest or pillow—it will stop the snoring."

"When a child reaches the time of changing teeth, you should hang around his neck the teeth from a one-year-old colt; the change of teeth will be easier to the child. Some people use wolf-teeth on children for the same purpose."

"Teeth from a colt, but they must not have fallen to the ground, will cure toothache when the sore tooth is touched with one of them."

"Powdered horse-teeth taken in red wine is good for bloody dysentery (Rothe Ruhr)."

"Two-thirds of one powdered horse-tooth, one-third white lead, and the white of an unlaid egg; make an ointment of it, apply it to the sore where joint water escapes; be it man or beast, it will stop it. Horses have a little bone in their heart the size of a dog's tooth—use it as a tooth pick when your teeth ache."

"The bite of a mad dog should be treated with horse dung and vinegar laid on the wound."

"Bone marrow of horses is good to use in paralyzed limbs. *Idem,* for spinal curvature."

"The liver of a horse dried and powdered taken in wine or water helps in a diseased liver and will stop the progress of the disease."

In another chapter the author tells us about horse-milk, that it was highly prized by the Scythians and Tartars, as we find it in the following history: "At their festivals when the king had finished the ceremony to their idols, he took milk from white mares, sprinkled it before his idols, with the intention that they should drink it; what remained in the vessel he drank himself. On that day no other Tartar was allowed to drink horse-milk except the members of the king's family; this was kept as a very sacred action by all on that day."

Virgilius[4] tells us that Camilla, who was a queen of the Volscians, was brought up or fed with horse-milk; this shows us clearly that horse-milk is just as good if not better than other milk. Strabo[5] in his seventh book writes: "There are in Parna Scythic tribes, which are called Nomades (living mostly in central Asia). These tribes had the knowledge of making cheese out of horse-milk; the cheese was boiled and thus made a delicious meal. From the milk an agreeable drink was also made and was called chroinitz, because it looked like white wine; Sabellius[6] called it galacto potum (meaning a drink made from milk); Theopompus[7] called the cheese from horse-milk 'oxygala,' on account of the vinegar and selected herbs, which were added when it was made. This cheese was also called 'hypocen' (meaning from the horse), of which Plinius, Dioscorides,[8] and others have written. Other barbaric tribes made rare meals from the blood of horses. But I mention this only and will not write more about it."

In Meyer's "Conversation's Lexicon" (fifth edition) I found the date of birth and death of most of the ancient scholars mentioned by the author of the old book and they are herewith given as I found them:

1. Varro Marcus Terentius is considered one of the best Roman historians. He was born 116 and died 27 years B. C.

2. Plinius Gajus P. Secundus, a Roman scholar, born A. D. 23 and died 79.

3. Nicandor (better Nicandros), a Greek poet, born 150 years B. C.

4. Virgilius Publius Maro, a celebrated Roman poet, born October 15, 70 years B. C., and died September 21, 19 years B. C.

5. Strabo (better Strabon), a Greek geographer, born 60 years B. C., and died A. D. 20. His geographica still exists in seventeen volumes. This is a valuable work, so much the more as he was able to write from his own experience in traveling.

6. Sabellius—his real name was Marcus Antoines Coccius—born in Italy 1436, and died 1506.

7. Theopompus, a Greek historian of note; he was born 376 and died 305 years B. C.

8. Dioscorides Pedanios, a Greek physician, lived at Anazarbos in Sicily A. D. 50. He was the author of a materia medica in five books; this work was the main source of information in botany and pharmacology in the middle ages.

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THE number of foreign medical students in France has constantly decreased since more stringent regulations were introduced about 1895. There are now 764, while in 1894 there were 1054. Russia and the southern countries of Europe afford the largest contingent—Turkey, Roumania, Greece, and Bulgaria. There are six students inscribed from the United States, sixteen from South America, eleven from the Antilles, and eight from Central America, with three from Mexico. The total number of French medical scholars is 7118, or 7882 in all, of whom only 54.8 per cent are inscribed at Paris.—*Exchange.*

# THE MEDICAL AGE.

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EDITED BY FREDERICK W. MANN, M.D.

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## EDITORIAL ARTICLES.

### SUBCUTANEOUS INJECTIONS OF GAS.

The resources of therapeutics are as inexhaustible, apparently, to-day as at any time in the history of medicine. The last expedient to find enthusiastic recommendation at the hands of its exploiter is that of subcutaneous injections of gas for the relief of inflamed areas.

The good effects obtained by the stretching of nerves in neuralgia suggested to Dr. Cordier, of Lyons, the idea of mechanically distending inflamed tissues and so to obtain the stretching of the fine nervous ramifications at the point at which they penetrate the derma. Cordier has used for this purpose an indifferent gas, and atmospheric air; later he used oxygen, hydrogen, and carbonic acid, without finding any sensible difference in action of these different gases, except a greater or less rapidity of their absorption. No special instrument is needed to sterilize atmospheric air—the needle and air-bulb of a thermocautery is sufficient. The operation must of course be done under antiseptic precautions. Cordier has practiced his method in hospitals and private practice, and has never seen any febrile reaction result from it. The pain that results is simply that of distention. When the injection is completed he practices massage, and this is repeated every day as long as the region is sonorous to percussion. This plan of treatment has been tried on twenty-five subjects of sciatica with apparent good results, thirteen of the cases being completely cured in five applications. The method employed is to inject fifty centiliters of carbonic acid at the following points: the lumbar region, external region of the thigh, external and superior region of the leg, and above the head of the peroneal process. From these points the gas is massaged toward the painful points.

The author of this plan of treatment maintains that it has a wide application, and that in rheumatism and in white swelling it is especially efficacious. That the suggestion is one of value can only be proved or disproved by the inevitable verdict of experience.

## EDITORIAL NOTES.

### The War Against Alcohol.

The war against alcohol is not by any means a latter-day affair. The Old Testament condemns the abuse of wine, but the alcohol question long antedates this in time. Solomon was not born when edicts against intemperance were promulgated in China. In the year 2286 before Christ, a manufacturer made an alcoholic drink from rice, and for this was condemned to death by the Emperor. In 2205 before Christ, Yen did not wish any one to drink wine, and said that drinkers lose their reason. Another emperor, Uri Yang, punished drunkenness with death.

After many modifications in the edicts which regulated the sale of drink, in 1279 before Christ all distillers were exiled from China. The Japanese followed the Chinese in their prohibition of fermented liquors. Many of the old laws of India interdicted the manufacture of alcoholic beverages. An edict of Mahomet in 696 prohibiting wine to his soldiers still stands and is observed by the Turkish army.

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### Prolonged Case of Catalepsy.

The Paris *Figaro* cites the case of Margaret Bourgenval, who for eighteen years and ten months has lived in a state of catalepsy without eating. This is a phenomenon of great interest, a physiological drama, in which death is unable to conquer a certain organic resistance. For five years Margaret has taken nothing but peptones administered by the rectum. The case is one that has excited great interest in medical circles, and its origin is attributed to some violent emotion.

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### A Hospital Strike.

In these days when strikes are ordered for all kinds of reasons or none, more than ordinary interest attaches to an event which recently occurred in Holland. In one of the infectious disease hospitals at Zaandam the nurses actually fled from the institution, abandoning the inmates to their unfortunate fate. The Burgomaster, not knowing what to do, telegraphed to the Convent of the Brothers of St. John, and these good people after little delay arrived and took charge of the infirm.

# ITEMS AND NOTES.

CARTHAGENA, Spain, is undergoing an epidemic of smallpox.

A NEW Chinese hospital is being built at Canton, China, by the French.

THE city of Montreal has passed a law making vaccination compulsory.

STATISTICS show that 150,000 persons have every year died of tuberculosis in France.

THE State Bacteriologist of Minnesota reports rabies as being very prevalent in that State.

THE Johns Hopkins Hospital is to have a new surgical building at a cost of $100,000.

THE twenty-fourth annual meeting of the American Laryngological Association was held in Boston May 26 to 28.

IT is reported that there is an epidemic of smallpox among the patients at the Long Island State Hospital for the Insane.

DR. E. J. NUFFEZ, formerly quarantine officer of the Port of Havana, has been appointed chief quarantine officer for the island.

MAJOR RONALD ROSS has been appointed chief in the new department of the Jenner Institute of Preventive Medicine at Chelsea.

DR. ARTHUR DEAN BEVAN has been appointed professor of surgery at the Rush Medical College to fill the position made vacant by the death of Dr. Fenger.

THE annual meeting of the American Medical Editors' Association was held at Saratoga June 9 and 10 under the presidency of Dr. A. J. Stone, of St. Paul, Minn.

THE House of Representatives in Washington is to have a medicine chest at the office of the sergeant-at-arms to be used for the emergency medical service in congress.

A NUMBER of prominent physicians and pathologists of the United States will give a complimentary dinner to Dr. Sternberg of the United States Army at New York June 13.

SEVERAL thousand German physicians have signed a petition to the Reichstag asking that the burning of bodies of persons dying of contagious diseases should be made obligatory.

The eleventh annual meeting of the Association of Military Surgeons of the United States was held at Washington June 5, 6, and 7 under the presidency of Col. John V. R. Hoff.

Virchow has gone to the watering-place Teplitz-Schonau for the summer, and has resigned the presidency of the Berlin Medical Society, which he has held for twenty years.

Dr. William H. Welch, of Johns Hopkins University, has been chosen to deliver the Huxley lectures for this year. Previous lecturers have been Lord Lister, Sir Michael Foster, and last year Professor Virchow.

The Peter Bent Brigham Hospital Corporation was formed May 8, under the will of Peter Bent Brigham, who died twenty-five years ago, leaving his estate in trust for hospital purposes. The trust expires on May 25, making $4,000,000 or more available for the new hospital in Boston. Brigham for a generation kept a concert hall in Court Street.—*Exchange.*

At the sixteenth annual meeting of the American Association of Genito-urinary Surgeons held at Atlantic City the following officers were elected for the ensuing year: President, Dr. Paul Thorndike, Boston, Mass.; vice-president, Edwin C. Barnett, St. Louis, Mo.; secretary, Dr. John Vanderpoel, New York. The next place of meeting will be Washington, D. C.

The Boylston medical prize offered annually for the best dissertations on questions in medical science by a committee in Harvard Medical School has been awarded for 1902 to Dr. Robert L. Randolph, associate professor of ophthalmology and otology in Johns Hopkins University, for a dissertation on "The Rôle of Toxins in Inflammations of the Eye," based upon experimental work.

Acting Consul W. D. Gordon sends from Pretoria, March 20, 1902, a copy of the Government Gazette of January 3, 1902, containing a proclamation in regard to the establishment of a medical board in the Transvaal. It provides that licenses must be obtained by persons (not already duly admitted to practice) who desire to practice as physicians, surgeons, dentists, chemists, or druggists. The license is to be obtained from the Secretary of the Transvaal administration, and before obtaining it a diploma or certificate entitling the holder to practice in the country where it was granted must be submitted. The license will not be granted unless it is shown that in the country which conferred the diploma British subjects legally qualified to prac-

tice medicine in Great Britain are afforded privileges equivalent to those granted by license under this proclamation.

For the best essay in competition for the Nathan Lewis Hatfield prize for Research in Medicine, the College of Physicians announces, through its committee, that $500 will be awarded. The subject specified is: "The Relation Between Chronic Suppurative Processes and Forms of Anemia." Essays must be submitted on or before March 1, 1903. The treatment of the subject must include original observations or researches or original deductions. The competition is open to members of the medical profession and men of science of the United States. Particulars may be obtained from J. C. Wilson, M.D., chairman, College of Physicians, 219 South Thirteenth Street, Philadelphia.

Professor Dyche, of the University of Kansas, lectured in Kansas City, Mo., May 15, upon "The Original Habitat of Man." He advanced the theory that the first man inhabited the northern part of Greenland and the territory surrounding the poles. In a recent trip to the northern part of Greenland, Professor Dyche found fossil specimens of the California redwood tree. As an illustration of the fight of animals against advancing inclement nature Professor Dyche cited the case of the mammoth, which was at first a heat-loving animal. Those which refused to leave their northern home gradually grew hair as a protection. When the environment became too severe, the species perished. Professor Dyche drew conclusions from the flight of birds. He believes that birds migrate north to breed, because of an instinct acquired by centuries of returning to the original breeding grounds in the north.—*New York Sun.*

Dr. H. Campbell Thomson (Pathological Society of London, *Lancet,* May 10, 1902) read notes of a case in which a hatpin was found embedded in the heart. The patient was a female, aged twenty-seven years, who had previously suffered from rheumatic fever with pericarditis. She was admitted into the Middlesex Hospital on August 19, 1901, suffering from symptoms of cardiac failure, and died on September 27, 1901. Post-mortem examination showed the heart to be much enlarged (weighing 16 ounces), and the pericardium was universally adherent. There was marked fibroid degeneration of the heart muscles. A portion of a hat-pin two and a half inches long was found to be firmly embedded in the wall of the right ventricle immediately below the pulmonary valves; the point of the pin passed through the wall of the aorta just above the valves and

projected into its lumen. The point of the pin was covered with blood-clot, some of which was calcified. Although the pin only passed through about half the diameter of the aorta, it had evidently at some time or other impinged on the opposite side, as evidenced by a localized injury to the wall of the aorta.

Dr. Trousseau presented a report to the Ophthalmological Society from which it appears that the number of the blind in France reaches the high figure of 31,966, or a proportion of 8 to 10,000 of the population. This proportion considerably exceeds that of Denmark, Sweden, Switzerland, Austria, and notably Holland, where it is exactly 4.46 per 10,000. According to Dr. Trousseau, two-thirds of these unfortunates might have escaped the terrible deformity if proper precaution had been taken. Purulent ophthalmia was one of the chief causes of avoidable cecity. Professional wounds of the eye are another cause that might be avoided. Workmen at such trades as stone-cutting, filing, grinding, etc., and all those employed at steel and iron works, should be compelled to wear protective spectacles. A third great cause of cecity, single or double, is myopia. Parents should pay more attention to the eyes of their children during the school period.—*Medical Press.*

M. Vignon read a most interesting paper at the last meeting of the Paris Academy of Science and exhibited some photographs which he had taken of the winding-sheet preserved at Turin and traditionally said to be that of Christ. This winding-sheet has on it certain markings printed in a brown color, which when photographed give a white imprint, as does a negative when printed from. These markings, therefore, act as a true negative, and M. Vignon has shown by certain very careful experiments that cloth impregnated with oil and aloes, as was the winding-sheet in question, will receive an impression when in contact with ammoniacal vapors such as would be given off from a sweat very rich in urea, as is the case in the sweat of a person dying a lingering and painful death. Any idea of fraud need not be considered, for no one has touched this winding-sheet since 1353, and no painter at that date had the skill to reproduce such an exact drawing. The impression of the head is excellent. The wounds produced by the crown of thorns and the marks of the blood-drops are quite obvious. The wound in the side, and even the marks of the stripes produced on the back by the flagellation, are also quite evident. Each of these stripes has at its end an enlargement such as would be produced by a cord with a ball of lead at the end. It is well known that this form of scourge was employed by the Roman soldiers, and such a one has been

found at Pompeii. Finally, the marks of the nails in the arms are not in the palm of the hand, but show that the nails were driven through at the level of the wrist. M. Vignon's paper has created an extreme interest both in the scientific and the religious world.—*Lancet.*

A BOARD of officers will meet at the Marine Hospital Bureau, 3 B Street, S. E., Washington, D. C., Monday, June 16, 1902, for the purpose of examining candidates for admission to the grade of assistant surgeon in the U. S. Marine Hospital Service. Candidates must be between twenty-one and thirty years of age, graduates of a reputable medical college, and must furnish testimonials from responsible persons as to character. In addition to the physical examination, candidates are required to certify that they believe themselves free from any ailment which would disqualify for service in any climate. The examinations are chiefly in writing, and begin with a short autobiography of the candidate. The remainder of the written exercise consists in examination on the various branches of medicine, surgery, and hygiene. The oral examination includes subjects of preliminary education, history, literature, and natural sciences. The clinical examination is conducted at a hospital, and when practicable, candidates are required to perform surgical operations on a cadaver. Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order as vacancies occur. Upon appointment the young officers are as a rule first assigned to duty at one of the large marine hospitals, as at Boston, New York, New Orleans, Chicago, or San Francisco. After five years' service, assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon. Promotion to the grade of surgeon is made according to seniority, and after due examination, as vacancies occur in that grade. Assistant surgeons receive sixteen hundred dollars, passed assistant surgeons two thousand dollars, and surgeons twenty-five hundred dollars a year. When quarters are not provided, commutation at the rate of thirty, forty, and fifty dollars a month, according to grade, is allowed. All grades above that of assistant surgeon receive longevity pay—ten per centum in addition to the regular salary for every five years' service up to forty per centum after twenty years' service. The tenure of office is permanent. Officers traveling under orders are allowed actual expenses. For further information, or for invitation to appear before the board of examiners, address the Supervising Surgeon-General, U. S. Marine Hospital Service, Washington, D. C.

# NEW PUBLICATIONS.

## THE DIAGNOSIS OF SURGICAL DISEASES.

This work is by Professor Aibert, of Vienna. It is unlike anything else which has hitherto appeared, and the fact that works on surgical diagnosis are comparatively few has justified its translation. The scheme of the work is similar to that which has been so successfully fulfilled in numerous manuals dealing with medical diagnosis. From symptoms the reader is led to infer the correct diagnosis. Thus one chapter will deal with abnormal positions of the head, another with injuries of the hand, another with disturbances of micturition, and so forth. The same idea pervades the whole manual, that of differentiating similar symptoms, and thus approximating as nearly as possible the advantages of actual clinical teaching.

This work is one which will appeal to the needs of the large circle of those who think and deal with surgical matters. It is illustrated with valuable plates and in all respects fulfils the expectations of the reader.

The Diagnosis of Surgical Diseases. Illustrated. Edited by Dr. E. Albert, New York: D. Appleton & Co.

## QUAIN'S DICTIONARY OF MEDICINE.

The dictionary first published many years ago by the late Sir Richard Quain has achieved an unparalleled reputation, and it bids fair to become a classic which will outlive any of its contemporaries unless it be Gray's Anatomy. It is needless to say that, while the original plan of Quain has been retained in this its new edition, the work has been practically entirely rewritten and the special branches of medicine have received attention, and the work has been embellished by a large number of full-page plates, fourteen of them being in colors. The physician in this dictionary practically owns a medical library, and it is almost impossible that he should seek knowledge in any conceivable topic related to the medical sciences and not find in these pages full and explicit information. The possession of this dictionary is something which happily the moderate price charged for it Murray, M.D., F.R.C.P. New York: D. Appleton & Co.

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# THE PROGRESS OF MEDICAL SCIENCE.

## SURGERY.

### A Contribution to the Surgery of Spina Bifida.

Van Buren Knott (*Annals of Surgery*, May, 1902) reports four cases of spina bifida treated by excision. The results in all the operations were successful. The writer draws the following conclusions: (1) Owing to the distressing nature of the affliction, the high mortality should not prevent attempts at surgical relief. (2) Meningoceles, meningomyeloceles, and syringomyeloceles may be considerably benefited by operation. (3) The improvement in function cannot with certainty be estimated before operation, and pronounced evidences of nervous disturbance are not a contraindication to excision. (4) Asepsis is absolutely essential, and though difficult to secure, may be maintained by exercising extreme care. (5) The plan of having the suture lines of the meninges and the overlying tissues on different planes will, in the majority of instances, prevent leakage of cerebrospinal fluid. (6) The suggestion of Pearson, to prevent the escape of this fluid during a prolonged operation by stuffing the canal with gauze, is valuable. (7) Large bony defects may be effectually closed by muscle much easier than by osteoplastic methods. (8) It is not necessary to keep the child off its back during the healing of the wound, as frequently advised. (9) Children with hydrocephalus accompanying spina bifida should not be subjected to operation.

### Division of the Sensory Root of the Trigeminus.

Spiller and Frazier (*University of Pennsylvania Magazine*, December, 1901) discuss—the former from the results of laboratory research, the latter from a clinical point of view—the prospects of simple division of the sensory root of the tringeminus in cases of facial neuralgia. Spiller, from the results of experiments performed with the object of determining whether or not this sensory root unites after section of its fibers, concludes that further study is necessary before we can be convinced that regeneration of sensory nerve roots in man occurs, and that full restoration of function is possible after division of sensory nerve roots. Even if a partial regeneration of these roots were pos-

sible, it does not follow, he suggests, that pain would return after division of the sensory roots of the trigeminal nerve. There might, he thinks, be a partial return of sensation without pain.

Frazier, dealing with the practical aspects of this question, states that as a substitute for all operations which depend for their success upon removal of all or part of the ganglion, he would recommend an operation for dividing only the sensory root. If a radical and permanent cure could be thus attained, such limited operation would claim many advantages. It would be attended with a lower mortality than the major operation, and be much less difficult. It would, it is held, be practically complete before the serious and troublesome difficulties common to other operations have been encountered. The integrity of the cavernous sinus is never in danger, and the risk of injuring the sixth nerve may be thus avoided. A brief record is given of a case in which this operation was performed by Frazier, but this is stated to be but a preliminary report, and the interval between the date of treatment and the latest observation is too short to permit of any conclusions as to the value of this procedure beyond its facility of performance and immediate, or, as it is here termed, surgical success.

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### The Control of Hemorrhage After Tonsillotomy.

Herrman, of Essen (*Archiv für Laryngol. und Rhin.*, Band xii, Heft 3), reports a method for controlling any serious hemorrhage which may arise after extirpation of the tonsil. The method has been followed many years in the City Hospital of Koln. By means of a Bergmann needle a coarse silk suture on a suitable holder is passed deeply through the posterior faucial pillar and then through the anterior pillar. The suture is knotted outside of the mouth, and by holding the silk with forceps behind the pillar the knot is drawn home securely. A second silk suture is then placed about three-fourths of a centimeter above the first. The two faucial pillars are thus brought into close apposition, making but one apparent fold, and the hemorrhage is forthwith controlled. In one case which he reports the patient had no discomfort from the presence of the sutures; they were removed after four days, and the healing of the tracheotomy wound was complete.

By this means not only primary hemorrhage is controlled, but any possible secondary bleeding is prevented.

## Mitral Obstruction.

According to T. E. Satterthwaite (*New York Medical Journal,* May 10, 1902) mitral obstruction is usually fatal before the age of forty is reached. Females are more prone to it than males. There is apt to be a marked contrast between a strong cardiac impulse and a full radial pulse. The writer says that the true presystolic murmur occurred in fifteen per cent of his cases. This murmur is apt to have a loud rasping or sawing quality, but may be "gushing" or "whirring." It may also be faint or inaudible.

These murmurs are best heard over a rather limited area, somewhat oval in form, having for its center an area between the fourth left space, inside the nipple and the apex, and extending an inch or so to the right or the left. Occasionally this murmur is heard best as low as the fifth, sixth, or even seventh left space; more rarely it is heard as high as the second left rib.

In ten to thirty-five per cent of the cases that came under the writer's care there was a thrill over this area.

The first sound at the apex is short and abrupt.

The second pulmonary sound at the base is usually intensified.

Occasionally a murmur with the second sound at the base is heard over the left auricular appendix.

At first there is hypertrophy of the left ventricle; then atrophy of it, with hypertrophy of the left auricle; then follow dilatation and hypertrophy of the right heart.

Mitral insufficiency must to some extent accompany mitral obstruction.

In distinguishing the presystolic murmur of mitral obstruction from the Flint murmur of aortic insufficiency, we should rely on the "long heart" and the strong impulse, or the "Corrigan" of insufficiency, rather than auscultatory signs. In case there is both aortic insufficiency and mitral obstruction, a differential diagnosis is impossible, with the means we have now at our command.

## Abdominal Grippe.

The toxins of Pfeiffer's bacillus seem to exercise an elective congestive action upon the various vascular regions of the body by means of the mediation of the cerebrospinal and sympathetic nervous systems. It results in a definite series of vasodilator

activities in specified regions, such as the lungs, liver, intestines, meninges, etc. Hence, says E. Micheal (*Medical News,* May 3, 1902), it is not illogical to suppose that these congestive processes can be preëxisting conditions, and so act that they appear as diverse clinical forms, varying according to the organ most affected. But this does not explain the reason why the abdominal form should appear separately as an epidemic. In all probability, the abdominal congestion with an attack of grippe may so stir up the bacillus coli communis that it may act as the cause of the predominance of the gastrointestinal symptoms. Still the bacterium is doubtless not alone responsible in every instance. Influenza may increase the virulence of streptococci and also the staphylococcus. Marchiafava, Massalongo, Weichselbaum, and Galliard have described cases of enteritis occurring during or following pneumonia, in which the intestines were covered with glairy pseudomembranes and even fibrous membrane, due to the presence of the coccus of Talamon. It is difficult to distinguish clinical forms of abdominal influenza due to congestion alone, from involvements due to secondary organisms. The author distinguishes the following clinical forms in the disease: (1) The mixed form in which the abdominal symptoms are concomitant with the thoracic involvement; (2) that form in which the abdominal symptoms alone are present. This latter may give distention to a marked degree. Again, it may simulate peritonitis and even typhoid fever. Abdominal influenza may coexist with typhoid fever. One will often have to rely upon the serum diagnosis to distinguish this disease from typhoid fever. There is a choleiform type which may be fatal, and the pseudoperitoneal form is serious, as the involvement is probably secondary to a colon bacillus infection. The pseudotyphoid variety may cause death in feeble patients or alcoholics by producing cardiac failure or by toxemia. Arteritis, phlebitis, and enterorrhagia make the prognosis more grave. When there is much diarrhea intestinal asepsis should be employed, with irrigations of large amounts of fluids. Cardiac weakness is to be combated with caffeine and sparteine. In pseudoperitoneal involvement, wrap the extremities in cotton wadding; for mucous discharges small doses of quinine are very beneficial.

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### The Pathogenesis of Gastric Ulcer.

A. Schmidt presented at the recent German Medical Congress (*British Medical Journal,* April 26, 1902) a communication on this subject. According to the author both mechanical and

motor influences are of the utmost importance in the production of gastric ulcers. Lesions of the mucous membrane, erosions, etc., arise very frequently, but heal rapidly where the muscular tissues are unimpaired, because the surrounding healthy mucous membrane rapidly roofs over the affected site and protects it against deleterious influences due to the gastric contents. Should this motor reaction be absent, harmless lesions might change into actual ulcers. He quoted his experiments in favor of this, which argument was also supported by the frequency of ulcers at the pyloric end and the lesser curvature, situations in which the mucous membrane showed fewer folds than elsewhere, as, for instance, in the fundus. Finally, the coexistence of chlorosis and gastric ulcer he considers as supporting his view, because in chlorosis atony of the stomach and other muscular organs exists.

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### Pneumatic Massage in Aural Practice.

Dr. Edwin Pynchon, at the seventh annual meeting of the Western Ophthalmological and Oto-Laryngologic Association, held in Chicago April 10 to 12, 1902, stated that pneumatic massage is often beneficial in chronic catarrhal deafness through its favorable effect upon the middle-ear adhesions. In this class of cases the external auditory canal is usually dry of wax, and the massage promotes the secretion, as well as correcting any itching which is often present in chronic catarrhal otitis media.

In suppurative conditions of the middle ear pneumatic massage has proved of value, particularly in cases of long standing, and when employed in connection with other treatment will often greatly expedite a case, owing to the mechanical effect in jarring or drawing down discharges from the attic. As regards the value of pneumatic massage in acute inflammatory troubles of the middle ear, authorities differ.

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### An Early Symptom of Pleurisy.

In the *Centralblatt für Chirurgie* Dr. B. Przewalski, of Charkow (Russia), directs attention to an early symptom of pleurisy with effusion. He detected this symptom in nineteen cases, fourteen of which had a serofibrinous and five a suppurative effusion. In every instance the intercostal spaces became more narrow and the intercostal muscles more rigid on the affected side than on

the healthy side. These symptoms were due to an abnormal contraction of the interosseous muscles, and were analogous to the muscular contraction met with in affections of the joints. This symptom was especially marked in children.

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## The Diagnosis of Malaria.

Patrick Manson (*Lancet,* May 17, 1902) says that it is of the utmost importance to diagnose malaria accurately, because in quinine we possess an almost infallible remedy, and if, in consequence of failure in diagnosis, the administration of the appropriate remedy was omitted, the patient suffered, and we as medical men grossly failed in duty. The pathognomonic indications of malarial infection are clinical, therapeutical, and microscopical:

1. *Clinical.*—There are many clinical signs and symptoms, such as fever, anemia, icteric tinting of the skin and scleræ, enlargement of the spleen and liver, gastrointestinal disturbance, tendency to spontaneous recovery and to subsequent recurrence, which might lead to a suspicion of malaria. There is, however, only one clinical symptom that justifies a positive diagnosis—periodicity, tertian or quartan, a rhythmical recurrence of symptoms every forty-eight or seventy-two hours. Quotidian periodicity is valueless in diagnosis; indeed, it is doubtful if it ever occurs. The parasites of malaria are either tertian or quartan in habit, and many of the symptoms they give rise to are correspondingly tertian or quartan in their recurrence. Multiple infection by two kinds of parasites, or by two or three generations of the same species of parasite, might give rise to double tertian or treble quartan infection with diurnal recurrence of symptoms; but this pathologically is not a true quotidian periodicity. A similar quotidian periodicity is usual in almost all febrile complaints. To make quotidian periodicity a ground for diagnosis is wrong and dangerous, and is perhaps the commonest cause of erroneous diagnosis.

2. *Therapeutical.*—Whatever might be the case in certain malignant infections in tropical countries, quinine, properly given, never fails to arrest a malarial attack within forty-eight or at most ninety-six hours of its administration; therefore a periodic remitting fever, that persists after adequate dosing with quinine—10 grains of the drug three times a day for four days—is not malarial. The dose of quinine must not only be adequate, but

it must also be absorbed. A catarrhal state of the gastric mucous membrane is usual in severe malarial attacks, and such a condition is very unfavorable to absorption; persistent vomiting is also common enough, and to get the therapeutic action and diagnostic value of quinine in such circumstances the drug must be given hypodermically or by enema. It is often given nowadays in tablet or coated pill form, which is a most dangerous method in serious cases, and a most unsatisfactory one for diagnostic purposes.

3. *Microscopical.*—This is the most satisfactory of the three methods of diagnosis if undertaken by one with experience. A negative result by the amateur is valueless, and a positive result is not much more to be trusted. It takes a large amount of practice to be able to recognize all forms of the malaria parasite, or to discriminate between them and vacuoles in the red corpuscles in fresh films, or dirt in dried and stained films.

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## Diagnosis and Treatment of Gastric Ulcer.

A discussion on this subject at the recent meeting of the German Medical Congress was opened by Professor Ewald (*British Medical Journal,* May 3, 1902), who dealt with the diagnosis, and more particularly with the diagnosis of rare and obscure cases.

He observed that he does not share the view of van Yzeren that gastric ulcer originates in a spasm of the pylorus. In the majority of cases there is no evidence of this. Ewald thinks there might be a confusion of cause and effect, as it is known that hyperacidity, even when not leading to gastric ulcer, occasionally produces lasting spasm of the pylorus. As regards diagnosis, he maintained that statistics supply insufficient data. In any given case one does not know whether he is dealing with exceptions or the rule.

During a period of ten years Ewald had collected 1030 cases of his own, and he proceeded to describe not the typical instances but those presenting abnormalities. When it becomes necessary to make a positive diagnosis, he does not hesitate to introduce a tube into the stomach, but in obvious cases he refrains from doing this. However, in cases of obstinate hemorrhage, the introduction of the tube and the use of ice water are indicated. He is struck by the number of cases in which there is no increase in the secretion of hydrochloric acid. Hyperacidity, nevertheless,

existed in 34.1 per cent, normal acidity in 56.8 per cent of the cases, while in the remainder the secretion was subacid. Moreover, individual cases showed considerable variations in the percentages, extremes of 28 and 44, 36 and 78, 38 and 54, 29 and 71, etc., being met with. Under these circumstances the change from ulcer to cancer has an unmistakable influence. Lactic acid is always absent, and as a rule, but not invariably, long bacilli cannot be found. Blood is frequently found in the extracted gastric contents, no vomiting having been produced and no other abnormality being present in the secretion.

Blood, however, in itself is not necessarily an indication of ulcer. Hemoptysis existed 203 times among 364 cases (125 males and 78 females), equaling 54.5 per cent. The diagnostic value of this symptom is very great, but the numerous causes of hemorrhage must be considered very carefully. Ewald laid stress on three principal and probable causes of error, namely: (1) menstrual hemorrhages; (2) hemorrhages in the course of severe septic processes; (3) so-called parenchymatous hemorrhages. Each category was fully dealt with, and suitable instances were quoted from the speaker's experience. As regards the latter class, also termed hemorrhagic erosions, these were not considered as diseases *sui generis*. His own experience, derived from the examination of gastric contents and the existence of particles of mucous membrane, led him to the conclusion that the cause was partly due to easily healing secondary erosions as the result of early but subsequently genuine ulcers.

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### Observations on the Normal and Pathological Anatomy of the Human Stomach.

In the *Lancet* of April 26, 1902, E. E. Glynn contributes a paper under this title. The material is derived from a series of seventy stomachs collected for two years in which post-mortem changes were prevented by the introduction of formol. The fact that post-mortem digestion destroyed the chief cells much sooner than the border cells is evidence that the latter secreted hydrochloric acid. The normal stomach when preserved by formol shows, in addition to rugæ, a "mosaic" appearance due to the marking out of polygonal areas by depressions, the areas being from one-eighth to one-fourth of an inch in dimensions and the depressions representing linear thinning of the mucous membrane. In the dilated stomach the rugæ are absent and the

mosaics are present; in chronic gastritis both disappear and the surface is granular. Chronic gastritis is common, but is usually localized, and most frequently attacks the lesser curvature of the adjacent posterior surface near the cardia; less frequently it is found near the pylorus; while the fundus, the anterior surface, and the greater curvature are rarely affected except when the gastritis is of the diffuse variety. The localization of the lesion at the lesser curvature is in all probability due to the fact that irritating ingesta first impinge on this part of the stomach. Microscopically, destruction of the border cells is commonly present, and mucoid degeneration.

Nine cases of gastric cancer were analyzed; in four there was advanced diffuse chronic gastritis with almost total destruction of the border cells; in one of these cases free hydrochloric acid was absent clinically. If it is true that free hydrochloric acid is absent in eighty per cent of cases of gastric cancer, this absence was due to associated advanced chronic gastritis, and this gastritis appeared to be in most cases antecedent to the cancer. In two cases at least cancer appeared to have originated in a previous chronic ulcer. Chronic gastritis and chronic ulcer also appear to be associated. Attention is drawn to six cases of modified hour-glass contraction, in one case the result of a cicatrizing ulcer on the lesser curvature; in the other five the stomach was normal and the condition was apparently due to excessive action of the circular muscular fibers upon the center of the lesser curvature.

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### Localization of the Mental Faculties in the Left Prefrontal Lobe.

Phelps (*American Journal of Medical Science*, April, 1902), after reviewing past research, reports in detail eighteen additional cases to those already published by him in which traumatic or pathological lesions of the frontal lobes resulted in varying phases of mental derangement. Seeing that the posterior portions of the frontal lobes are known to control special motor functions, mental control becomes localized to the prefrontal region, while the conclusions from previous investigations point to the seat of such control as being in the prefrontal region of the left lobe rather than the right. Also laceration of the left frontal lobe appears to be the only traumatic lesion occasioning direct loss or derangement of intellectual function, and the deeper the laceration the more mental default preponderates over mental

aberration; while in recovering cases, where the lesion may be regarded as irritant rather than destructive, mental aberration is more frequently noted than mental default. Three cases reported by other observers are quoted in which extensive destruction of the right frontal lobe occurred without alteration of the mental faculties, while the famous "crowbar case," where the lesion was in the left prefrontal region, and a case reported by Obici and Tambroni of glioma of the left prefrontal lobe, are referred to as showing mental disturbance. In every instance but two out of 295 cases, where the history was verified by necropsy, extensive laceration of the prefrontal region of the left frontal lobe was characterized by abrogation of mental power, while more superficial injury manifested itself by mental aberration. The disturbance of mental faculties seemed to be proportionate to the extent of the lesion rather than to its situation either on the superior or inferior surface of the lobe. In all cases where the laceration was confined to the right lobe the mental faculties were unaffected, and compression or contusion of the left lobe only exceptionally produced specific intellectual disturbance. These inferences are supported by the author's personal observation of 800 cases of intracranial traumatism where more than 300 were verified by operation or at the necropsy, and in those excluded, because thus unverified, the coincidence of symptoms of mental disorder with indications of lesion of the left frontal lobe help to strengthen the inferences founded upon cases verified by necropsy.

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### Should Milk be Boiled?

W. B. Ransom (*British Medical Journal,* Feb. 22, 1902) comes to the following conclusions: We may say that there is no solid evidence to show that milk raised to its boiling point (110° C. = 233° F.) or to the temperature of boiling water for ten minutes or a quarter of an hour suffers any diminution of its nutrient qualities. Neither is it probable that if consumed within twenty-four hours of the heating it will cause infantile scurvy. The same is true of Pasteurized milk heated to 80° or 85° C. None of these methods render the milk absolutely sterile, but they do kill pathogenic microbes (for example, those of tuberculosis, cholera, diphtheria, and typhoid), and if the milk be kept cool and drunk within twelve hours of the heating, few or no spores will have developed into bacilli. Pasteurization is

probably less reliable than heating to 212° F. for ten minutes, and is also more difficult to carry out, as it is easy with simple domestic apparatus, such as Aymard's or other double saucepan, or Soxhlet's or Hawksley's bottle-holding tins, to keep the milk in a bath by boiling the water for ten minutes.

In times of epidemic summer diarrhea the heating should be prolonged for at least half an hour, and the milk drunk within a few hours, or subjected again to the process, as the spores of the bacillus sporogenes enteritidis are very resistant. Under all circumstances, milk, whether raw or "sterilized," should be drunk as fresh as possible, and then the liability to gastroenteritis and nutritional diseases will be diminished; but it is the writer's emphatic opinion that infants who live wholly or mainly on milk as at present supplied to us should never be exposed to the dangers lurking in the raw fluid.

Lastly, nothing in this paper is intended to detract, first, from the paramount importance of children being suckled by mothers for the first seven or eight months of their life; and secondly, from the equally vital matter of securing a pure milk supply from healthy cows, hygienic stables and dairies, and clean milk cans. Educational and legislative measures to secure such a pure milk supply should have the heartiest support of every medical man.

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## The Parasitic Bodies of Cancer.

Schuller (*Centralbl. für Chir.,* No. viii, 1902) answers the criticisms on his researches, which have endeavored to show that the bodies he described as parasites were either cork cells or some other foreign material. He maintains that these assumptions are unwarranted and erroneous, that they will not explain his descriptions of cultures and sections, and that as a matter of fact he used in his researches stoppers of gutta-percha and glass, and methods in which contamination with cork cells was highly improbable. Since the publication of these criticisms he has used the most scrupulous care to exclude the possibility of such accidental contamination, but in spite of this forms previously described, large capsulated cells, and small spherical "young" forms have been constantly found. He repeats his former view that the large forms represent a resting stage in the life history of the organism, and that the young forms are those that are actively concerned in the cancerous process; they are found both within and between the cells, and the stages of

their development into the large forms can be traced. That these young forms are not leucin he holds is proved by his observation of their powers of movement and contraction, and they do not behave as leucin in the presence of alcohol and heat. Lastly, he draws attention to the experimental inoculations and their results, described in his first monograph; the changes produced are those described as of typical carcinomatous character, and this view he reiterates.

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### The Etiology of Typhoid Fever.

T. Cherry (*Intercolonial Medical Journal of Australasia,* March 20, 1902) concludes: (1) That many mild cases of fever, often classed as febricula, are slight attacks of typhoid, and may serve to distribute the contagion. (2) Typhoid fever itself may be a composite disease, or series of diseases, caused by closely allied organisms. (3) While, from the bacteriological evidence, the *de novo* origin of the disease is not disproved, still a general survey of all the known facts enables us to explain most cases without having recourse to this hypothesis. (4) Typhoid fever at once disappears from a community with the introduction of a proper system of disposal of excrement and household refuse. In towns this can best be done by a properly constructed water-carriage system of sewerage. (5) The disease is spread chiefly by the contamination of water, milk, and other articles of food. In hot countries, at least, flies and dust have a share in bringing about the contamination. (6) The length of time during which the bacilli can exist outside of the body is unknown. There is evidence to show that the contagion hangs about old cesspits and contaminated soil for several years.

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## THERAPEUTICS.

### Therapeutic Value of Vegetable Diet.

Kuttner (*Berliner Klinik*, January, 1902) summarizes his conclusions as follows: (1) That a mixed meat diet is natural and most suitable to man, because vegetable foods are more bulky, more irritating, and less assimilable; moreover, animal foodstuffs produce more heat. (2) Impartial investigation has proved that, given judicious choice and preparation, strict vegetarianism is not only sufficient to maintain condition, but even

to increase weight. Successful experiments are, however, few and far between, and the subjects do not as a rule compare favorably with those who eat mixed or animal diets in their power to put on weight and resist disease. (3) That a modified vegetarian diet (that is, one supplemented by such animal products as milk, butter, cheese, honey, and eggs) is suitable (*a*) for corpulent constipated patients deficient in intestinal activity, but it is not to be recommended in the case of young growing people with a tendency to embonpoint; (*b*) in certain cases of alcoholism; (*c*) it is followed by brilliant results in dyspepsia and intestinal affection of nervous origin; (*d*) particularly to be recommended in idiopathic neuralgias, as well as those having a gouty basis; (*e*) useful in the treatment of headaches and other disorders dependent on constipation in neurasthenic, hysterical, and epileptic patients; (*f*) as the pulse-rate is diminished under a vegetable diet, it is to be recommended in conditions of abnormal irritability of the heart (arising from emotion, excessive muscular action, sexual excitement, etc.), and in exophthalmic goitre; it is contraindicated in all conditions of heart weakness due to arteriosclerosis, myocarditis, etc.; (*g*) a marked addition of vegetables to diet should be considered in many cases of insomnia nervosa, urticaria, psoriasis, and occasionally scrofula. (4) That to achieve a favorable result in absorption a reasonable combination of animal and vegetable foodstuffs is essential. For all healthy and for most sick persons a mixed diet (different in degree and constitution according to the patient) is to be recommended. (5) As a guide to the arrangement of a suitable modified vegetarian diet the following may be of value: (*a*) In weak, broken-down patients with chronic catarrh or an inclination to ataxia of the stomach, a vegetarian diet must be gradually approached, and must only be maintained temporarily (say six weeks); (*b*) in gastric neurasthenia, and especially in habitual constipation in patients of good physique, vegetarian diet may be instituted less gradually, and may be maintained for a longer period.

The following may be considered as a suitable arrangement of a lactovegetarian diet: Breakfast—Porridge, cup of sweet milk, cocoa, bread and butter (with any tendency to constipation a fruit jelly, honey, or fresh fruit may be added). Forenoon—A brew of rice, lentils, etc., milk or "kefir," with bread and butter. Lunch—Soup made of fruit, milk, vegetables, or greens; a macedoine of fruit; a bowl of buttermilk; with plenty of green vegetables, which, according to the requirements of the case, may be prepared with more or less butter, and given as a purée mashed

up, or in their ordinary form; egg, cakes, pancakes, etc., with, if hungry, raw or cooked fruit. Afternoon—A goodly portion of cooked or raw fruit, with white bread or rusks (with any tendency to formation of acids in the stomach, honey or fruit jelly may be allowed); a small quantity of milk or a mixture of milk and cream. Evening meal—Several times a week a brew of barley, rice, tapioca, etc., with milk and butter, baked potatoes, butter, and cheese; on other days, eggs, egg foods, milk, or "kefir." Special indications for this form of diet are a tendency to corpulence, appearance of severe gastric disorders, etc. A written diet (as regards quantity and composition) should invariably be given in each case. General diet tables are useless.

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## A New Substitute for Silver.

A. C. Barnes and H. H. Hills (*Medical Record*, May 24, 1902) present to the profession a new proteid, hitherto undescribed, combined with silver. This new proteid is obtained in the following manner: Gliadin, one of the proteids of wheat, is extracted by means of hot diluted alcohol, evaporated to dryness, dehydrated with absolute alcohol, treated with ether, and dried *in vacuo;* gliadin thus obtained is a white friable mass.

This is then heated in an autoclave under pressure for several hours with dilute hydrochloric acid, whereby the new proteid arises and is obtained in white granular form by means of precipitation. This new body differs materially in elementary constitution and solubility from gliadin; the solubility of the new proteid, in both dilute and concentrated salt solutions, classifies it as a vitellin—a proteid occurring naturally in the yolk of egg and in certain plants.

This transformation of one proteid into another of a totally different character has been recorded by other investigators—*e. g.*, Blenn (*Zeitschrift für Anal. Chem.*, Bd. 22, 1896), by complicated chemical treatment of egg-albumen, obtained a new proteid possessing characteristics different from any known proteid. The chemical combination which our vitellin forms with silver is herewith described.

To a salt solution of vitellin, obtained in the manner already mentioned, a concentrated solution of silver nitrate is gradually added until precipitation no longer occurs. The supernatant fluid is decanted and the precipitate filtered and dried *in vacuo*. Silver vitellin is thus obtained as a dark-brown powder.

The chemical and physical properties of this compound are

unique. First of all, it contains thirty per cent of silver—twice the amount of any proteid silver heretofore produced. The extreme solubility of our silver compound is remarkable. One ounce of it is freely and completely soluble in less than a dessert-spoonful of water—a fact which will be wondered at by physicians who have been able only with great difficulty to obtain even a five-per-cent solution of other proteid silver compounds.

Solutions of silver vitellin, no matter how concentrated, do not precipitate albumen or sodium chloride; hence it can have no coagulating or caustic effects upon mucous membranes, nor can it be chemically changed by their secretions.

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### Medical Treatment of Cancer of Stomach.

Kronlein (*Medical Press,* May 7, 1902) compares the medical treatment of cancer of the stomach with that of operation. He says that since the hopes raised twenty-two years ago by Billroth's first successful resection of cancer of the stomach, opinions are now again gradually becoming pessimistic. Even among surgeons there are doubts. He thinks therefore that an inquiry and a balancing of the results would be useful. Is operation curative or palliative? Can life be prolonged if not saved, or only made bearable for a time? He has collected notes of 264 cases, of which 195 have been operated on, while 69 were not operated on—54 because operation was not admissible, 14 because they declined to submit to it. Exploratory laparotomy was performed in 71 cases with 7 deaths; gastroenterostomy in 74 cases with 18 deaths; and gastrectomy in 60 cases with 14 deaths; total deaths, 39—19.4 per cent. As regards permanent results, he has only failed to obtain information as to four per cent of the cases. The average duration of time between the first appearance of symptoms and admission into hospital was nine months. If patients were now submitted to operation the average duration of life was another 104 days; so that the average life from onset of symptoms was about one year. Patients went, therefore, first to the surgeon when three-fourths of their span of life had already run out. After gastroenterostomy the average existence was 193 days, a prolongation of about three months. After gastrectomy they lived 420 days, a lengthening of life of about fourteen months. Of the gastroenterostomy cases nine were still living, and of the gastrectomy thirteen. Of these one was healthy in the eighth year after operation, one in the fourth year, two in the third, three in the second, and six in the first. As

recurrence took place late in carcinoma of the stomach, freedom from disease for three years could not be accepted as a permanent recovery.

The figures show at least that surgery offers some improvement on the hopeless outlook of internal treatment only. It not only prolongs life, but renders it more bearable. This was especially the case in gastrectomy, which rendered even a radical cure possible. Kronlein concludes with the wish that the operation, like that of extirpation of the vermiform appendix, might become more popular, not only with the surgeon, but also with the public. With early operations even better results might be obtained.

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### Amaurosis (Atrophy of the Optic Nerve), and its Treatment by the Subcutaneous Injection of Strychnine.

Hasket Derby (*Boston Medical and Surgical Journal,* May 15, 1902) from his experiences reaches the following conclusions: (1) Strychnine is a stimulant to the optic nerve. Even in normal eyes it slightly increases the acuteness of vision and widens the visual field. These effects are temporary. (2) In certain cases of optic nerve atrophy its local subcutaneous injection has, to say the least, coincided with an arrest in the progress of the disease, and has been followed by a somewhat increased acuteness of vision. Whether these effects are temporary or permanent, time and fuller statistics will show. (3) In a progressive case of this disease it is clearly our duty to state the above facts to the patient, and allow him to take the treatment if he is so inclined. (4) The strychnine should always be administered in the temple, and by subcutaneous injection.

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### Dry Hot Air in the Treatment of Sprains.

C. E. Skinner (*Journal of Advanced Therapeutics,* May, 1902) advocates the use of dry hot air in the treatment of sprains. He says that the results of hot-air applications to sprains appear magical at first sight, yet when the subject is considered from an analytical standpoint, it is seen that the agent produces its effects in the same way as does every other successful treatment of the condition, ambulatory or otherwise, viz., through its action upon the circulatory and metabolic functions. The greater rapidity of repair, and the greater effectiveness in the relief of pain, are due merely to the greater profundity

of its physiological action, both local and through the spinal reflexes, and its general influence upon these functions is beautifully exemplified by its action on this condition.

The advantages exclusively dependent upon the use of hot air in sprains are as follows:

First, the rapidity of repair, which exceeds that produced by any other agent now known, and by reason of which general systemic impairment, due to lack of exercise from confinement to the bed, chair, or house, is never induced.

Secondly, immediate relief of pain, which can be rendered practically permanent by repeating the treatments as often as the pain becomes troublesome.

Thirdly, entire absence of any but beneficial after-effects upon the organism at large, no matter how frequently it is applied.

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### The Treatment of Lupus and Psoriasis.

At a recent meeting of the Paris Dermatological Society, Hallopeau (*Medical Press*, May 14, 1902) read a paper on the treatment of lupus and psoriasis by permanganate of potash, in which he pointed out that although some specialists believe that permanganate of potash is powerless against lupus, he recently treated a woman for one of the gravest forms of the disease with that agent, and the success was complete. He presented several other cases in which the cicatricial tissue was very extensive, and he does not doubt that by persevering in the application of the salinated solution he can obtain a complete cure. In psoriasis he obtained also considerable satisfaction by applying to the lesions compresses of a solution of permanganate 0.3 to 1 per cent, according to the tolerance of the patient.

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## OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

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### Radium as a Means of Sight for the Blind.

At a meeting of the Paris Academy of Medicine, held April 15, M. Javal (*Lancet*, May 3, 1902) showed the meeting that radium, the metal discovered by M. Curie, possesses the singu-

lar quality of continuously emitting rays of a kind similar to cathodal rays or the rays of Roentgen. M. Giesel has found out that compounds of radium produce a perception of light in the eye even when a screen is interposed between the eye and the radium compound. The screen may be of metal, and the whole of the visual field appears full of light. The same sensation of light is felt if a glass tube containing a few centigrammes of radium chloride be pressed against the temple. M. Javal and M. Curie have made some experiments with radium in blind persons. If the retina be healthy they experience a sensation of light exactly comparable to that felt by a "sighted" person. In a patient who was completely blind owing to infantile purulent ophthalmia, which has made the corneæ quite opaque, the light emitted by the radium was distinctly seen. If, then, this patient could have his corneæ made transparent, he would have good vision.

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### A Plea for the Early Treatment of Squint.

N. M. Black (*Journal of the American Medical Association,* May 24, 1902) says that the treatment of squint should commence as soon as the slightest deviation is noticed, and should consist of:

1. The maintenance of fixation in the deviating eye to prevent deterioration of vision in that eye.
2. The correction of all refractive errors.
3. The exercise of the fusion faculty, and when that is well developed, if the deviation is not corrected, resort to operative measures to produce approximate parallelism of the axes; the desire of fusion developed by the exercise of this center will then maintain parallelism and binocular vision.

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## DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,

Lecturer on Dermatology, Detroit College of Medicine.

### Herpes Zoster.

Van Harlingen (*American Journal of the Medical Sciences,* January, 1902) concludes from clinical and histological investigation (*a*) that under the term "herpes zoster" is to be under-

stood a specific infectious and probably contagious exanthem. As regards its pathology, since Barensprung in 1861 developed the idea of its nervous origin, and attributed it to irritation of the spinal ganglia (posterior root) or of the Gasserian ganglion, subsequent authors have held that the trophic condition of the related cutaneous areas became weakened or altered, and a condition of local vulnerability of the skin was thus set up, which under the influence of rubbing, contact, and microbes might develop the characteristic eruption. Barth noted that visceral disease may be followed by herpes in certain related cutaneous areas, an observation subsequently confirmed by Pitres and Vaillard, Potain, Head, and others. (*b*) The *materies morbi* which has a selective action on the posterior spinal root ganglia (and the Gasserian ganglion) is as yet of unknown nature. The author shows from minute clinical inquiries that zoster is characterized by an onset with feelings of lassitude, general malaise, chills, febrile temperature, and digestive disturbances. (*c*) Following the above symptoms, in most cases neuralgic pains develop along the affected nerves and the lymphatic glands get enlarged. Some days afterward the characteristic exanthem appears, the neuralgic pains now usually disappearing. (*d*) Zosteroid eruptions are not infrequently observed in cases of poisoning by coal gas, from arsenic, from shock and injury of nerves, and probably also in hysteria. These, however, are to be distinguished from true herpes zoster. The origin of the disease has not yet been clearly traced, but outbreaks may occur in epidemic form.

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## GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

### Is Abortion Justifiable in the Vomiting of Pregnancy?

L. A. Wright (*Amer. Med. Comp.*, February, 1902) lays down the following propositions:

1. That the so-called lethal form of vomiting in pregnancy rarely occurs.

2. That death from this exceptional disorder is at least so very unusual that its possibility has been doubted by many high and thoroughly competent authorities.

3. That when death, incidental to vomiting during gestation, does take place, it is much more likely to be due to gastric ulcer, malignant growths, tuberculous peritonitis, or other disease, in which severe, intractable and dangerous vomiting is common, and from which death is inevitable, than to follow a condition that nearly always ends in a restoration to health.

4. That the natural termination of all vomiting of pregnancy is in recovery, and that the resources of treatment are practically inexhaustible.

5. That instrumental abortion is more dangerous to the life and health of the mother than the disorder it is designed to relieve, and its performance, excepting as a desperate chance to save her from certain death, is unscientific, unjustifiable, and unwarranted.

The author points out that he has wholly refrained from considering the interests of the unborn child, and has, by an impartial presentation of facts, endeavored to show, wholly in behalf of the mother, that instrumental abortion for the relief of the nausea and vomiting of pregnancy is utterly indefensible. But the child certainly has some right to protection. He holds the opinion, in all conscientiousness, that the interests of the child are entirely secondary to those of the mother; but he does not believe, as some profess, that the product of conception is of no more consequence than any unimportant piece of protoplasm.

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## The Treatment of Vaginismus and Pruritus Vulvae by Resection of the Internal Pudic Nerve.

Although this operation was originally recommended by Simpson, as far back as 1861, it does not appear to have been practiced to any extent. Tavel (*Edinburgh Medical Journal*, April, 1902) has performed it twice with highly satisfactory results. He employed and recommends a sagittal incision, from eight to ten centimeters in length, which passes from before backward across the ischiorectal fossa, midway between the anus and the ischial tuberosity. The anus lies opposite the middle of the incision. After dividing the integument, the dissection is made toward the inner aspect of the ischium, care being taken not to damage the inferior hemorrhoidal nerve. On passing the finger over the fascia which covers the obturator internus, the internal pudic artery can be felt pulsating as it passes through Alcock's canal. The inner layer of the fascia forming the canal is divided,

and the nerve isolated from the vessels. The inferior hemorrhoidal and the anal branch of the deep perineal are hooked back and the muscular branches isolated. They are recognized by the fact that, when they are pinched, the muscles contract. The branches which supply the muscles implicated are divided and avulsed after the method of Thiersch. The wound is closed without drainage. In this paper is incorporated a full description of the anatomy of the perineum by Professor Strasser.

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### The Condition of the Heart in Pregnancy.

A. Stengel at the recent meeting of the Association of American Physicians read a paper under this title. The paper was based on tracings of the heart in twenty-six pregnant women compared with tracings in the same cases after delivery. The blood-pressure before and after labor was also measured. The tracings confirmed the statement of Gerhard that the displacement of the apex beat in pregnant women is not due to hypertrophy of the heart. The apex of the heart is displaced outward by the upward displacement of the diaphragm due to pressure. There is also a slight enlargement of the heart upward and to the left, due to dilatation of the conus arteriosus. This was noticed in nine of eleven primiparas, and did not go down as quickly as the apex returned to its place after delivery. From this it is probably safe to say that there is an increase in the size of the right heart and conus arteriosus during pregnancy. The overaction of these parts of the heart probably gives rise to the murmurs heard in some cases. The blood-pressure was found to be practically the same before and after delivery.

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### Puerperal Fevers—From a Surgeon's Standpoint.

E. Lanphear (*American Journal of Surgery and Gynecology*, May, 1902) says that the persistence of puerperal infections in spite of the fact that we know them to be preventable may be ascribed to: (1) Non-familiarity with the various causes; (2) inappreciation of the term asepsis; (3) gross carelessness; (4) meddlesome interference with a natural process; (5) spread of venereal diseases. Lanphear divides the varieties of fever as fol-

lows: (1) Saprophytic infection; (2) streptococcus infection; (3) bacillus coli communis infection; (4) staphylococcus infection; (5) gonococcus infection; (6) Pfeiffer bacillus infection; (7) Klebs-Loeffler bacillus infection; (8) infection with vibrion septique Pasteur; (9) pneumococcus infection; (10) mixed infection.

In concluding his essay the author says that he wishes to state emphatically that "puerperal fevers" will practically disappear when doctors, nurses, and midwives learn that the woman in labor and immediately after should be treated upon the same rules of antisepsis as govern the surgeon in the most extensive operation.

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### The Use and Abuse of the Obstetrical Forceps.

E. A. Ayres (*New York State Journal of Medicine,* April, 1902) says that if the use of the obstetrical forceps is indicated, any one of the classic blades of Elliott, Simpson, or Hodges can be employed, whenever they will accomplish delivery without fetal injury. Select the time of application nearest the obstetrical moment—completion of cervical dilatation and head molding—permissible by the character of the patient's expulsive powers. Apply the blades to compel anterior rotation of the occiput. Make the first aim in traction delivery of the head through the cervix, rather than its descent into the pelvic brim. Remember that tractions are similar to convulsions in their effect on the fetus, which when prolonged provoke asphyxiation.

Keep the shafts off the perineum during the tractions high up. Remove and reapply the blades at studied intervals in prolonged and difficult cases. Extend the limb when the head reaches the vulva.

Remove the blades when the hands control the head, and keep a constant watch of the fetal pulse.

# THE MEDICAL AGE

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## ORIGINAL CONTRIBUTIONS.

### COCAINE ANESTHESIA BY LUMBAR PUNCTURE.

BY S. G. GAY, M.D., SELMA, ALA.

Puncture of the spinal column for injecting cocaine has been made in several regions, but the conclusion has been reached that the lumbar region is the best. In order to perform the operation, have the patient sit astride a straight chair, with his face to the back of the chair and lean forward. Draw an imaginary line across the back from the crest of one ilium to that of the other, which line will pass across the spinous process of the fourth lumbar vertebra, and indicate the point at which the injection is to be made.

In order to quiet apprehension on the part of the patient, as well as to render the lumbar puncture painless, first inject a drop or two of cocaine into and underneath the skin, giving assurance that this will cause no pain. You will find this good practice, for, if you attempt to plunge the needle into the spinal canal without having cocainized the surface, your patient is liable to become nervous, and to embarrass the procedure.

In undertaking this operation one should be as painstaking in sterilizing the syringe, needle, hands, instruments, and seat of puncture, as he would be in preparing for an abdominal section, as the greatest danger lies in the possibility of infecting the spinal canal. In regard to this danger I quote from a recent article on this subject: "The use of this procedure must not be undertaken by any surgeon without the most careful sterilization of the fluid to be injected, and the most scrupulous cleansing of the surface of the back, all about the region where the injection is to be made. The slightest deviation from the most rigid antiseptic precautions, when invading such an important vital center as the spinal cord, is criminal."

I will now submit for consideration the bedside notes, made mostly by the nurses in attendance, of several cases in which I

have used cocaine by lumbar puncture as the anesthetic for operations.

*Case 1.*—In July, 1900, I did a double ovariotomy on a colored woman, aged twenty-seven. A few days afterward I went to Chicago, leaving the patient in charge of Dr. B. B. Rogan. On my return I found that there was a deep stitch abscess, resulting in the formation of an extensive sinus beneath the recti muscles. In dealing with this case I determined to use spinal cocainization.

On September 8, 1900, I dilated and curetted this sinus, under spinal anesthesia.

At 11.07 A.M. injection of cocaine into the lumbar region was begun; 11.08, injection finished. (I will say the time occupied by this procedure has been from thirty to sixty seconds.) At 11.15 dilatation commenced with a uterine dilator. After dilatation the sinus was thoroughly curetted, without any pain. At 11.18 pulse 120, very weak; 11.19, nausea and slight vomiting; 11.20, profuse vomiting; 11.27, inserted drainage tube. At 11.40 pulse 112, with good volume; patient expressed herself as feeling all right; walked from the table to the bed. At 3 P.M. temperature 102°, pulse 100; complained of severe headache, and vomiting; 4.30, temperature 104 2-5°; 6.15, temperature 103 1-5°; 7.30, temperature 102 3-5°. At 2.30 A.M. temperature 102°, with pulse 100. At 7 next morning temperature 101 3-5°; at 12 o'clock it went to 102 4-5°. After that time the temperature declined, and the patient rallied from the cocaine. I will state that this curettement was not successful, and in a few weeks I resorted to it again in this case. The temperature this time went to 101 1-2°.

*Case 2* was a woman on whom I used spinal cocainization for a series of operations: first, dilating cervix and curetting uterus; second, repairing laceration of cervix; third, repairing perineum.

At 10.40 A.M. injection of cocaine under skin; 10.50, injection of cocaine into spinal canal; 10.58, pulse 80; 11.01, began curettement; 11.05, pulse regular, no pain whatever; 11.06, respiration 20; 11.10, patient drowsy; 11.28, cervix operation completed; 11.30, perineal operation begun; 11.35, complained of pain in lower abdominal region; 11.40, operation completed, patient felt all right. At 11.45 patient walked from operating-room to bed; no nausea during the operation. At 11.55 pulse 80, respiration 20. At 2.20 P.M. temperature 99 3-5°, pulse 70; complained of slight soreness through hips. At 5.30 temperature 101°, pulse 70, respiration 18; had not complained of pain. At 9.00 temperature 102°, pulse 76, respiration 20; some soreness. At midnight, sleeping at intervals. At 3 A.M. temperature 102°,

pulse 67, respiration 18; quiet and in no pain. At 6 A.M. temperature 99 4-5°, pulse 66, respiration 18. On the afternoon of the second day, temperature at 6 P.M. was 100 3-5°. After this the patient convalesced.

*Case 3.*—The next case was one in which I used the cocaine in labor, and so far as I knew, at that time, it had never been used in this country for this purpose. A few days after using it on this case I saw a report by Dr. S. Marx, of New York, of forty-two cases of labor, in which he had employed this method of anesthesia.

September 27, at 1.30, second stage of labor had commenced, with presentation of the right shoulder. At 2.30 cocaine was injected underneath the skin; at 2.41 in the spinal canal. At 2.47 patient said feet and legs felt dead. At 2.48 delivery was commenced; complained of nausea and vomiting. Introduced my hand, got hold of leg, turned and delivered. At 3.11 delivery complete, child being dead. After the delivery the woman said she had experienced no pain whatever; the only uncomfortable sensation experienced was while I was trying to get hold of the feet of the child, which was caused by my pushing the uterus upward and interfering with respiration. She made a rapid recovery. Temperature at 6.30 P.M. was 100.4°; was able to return to her work in about ten days after delivery.

*Case 4.*—My next case was on October 13, colored woman; used cocaine anesthesia by spinal method for the removal of tuberculous glands from inguinal region. At 10.40 injection of cocaine begun; 10.41, completed; 10.50, fistulous tract probed; 10.52, incision made; 10.55, nauseated. This patient complained of some pain when dissecting was being done in the neighborhood of the pubes. The innominate bone was found to be involved, and I introduced a drainage tube.

*Case 5.*—Next case, colored male, October 27. History of tuberculosis and syphilis; had close stricture of the rectum; could not even pass gas. In this case I injected the cocaine and dilated sphincter muscle without pain. This patient was lifted back to bed, and made permanent recovery. I am informed that he died from tuberculosis within the last ten days.

*Case 6.*—The next case was a negro woman, aged fifty. The operation was vaginal hysterectomy. I was forty seconds in injecting the cocaine. At 10.45 the injection was finished. Operation commenced at 10.58; pulse 92. Nervous after being placed on table; patient bathed in perspiration; later, pulse 72. At 11.15 patient complained of pain when the uterus was drawn down. At 11.20 no pain; 11.37, nausea; 11.57, uterus removed. After removal of uterus patient had a little hemorrhage, and

became nervous; gave a general anesthetic until I could get the hemorrhage controlled. This patient suffered from shock. At 2 P.M., pulse 48; at 3, pulse 38, at which time saline solution was given subcutaneously, and hot applications made, which caused her to rally. At 9 o'clock she had completely rallied; temperature 101 3-5°. In twenty-four hours she was free from fever.

*Case 7.*—The next case was one of stricture of deep urethra. I examined it four or five weeks before, at which time patient refused the operation. November 24 I was called to his home and requested to do something to relieve him. I had him go to the hospital that afternoon; injected cocaine in his spinal canal, and had him get on the table; injected urethral canal with sweet oil, and succeeded in passing a filiform at first attempt. In a half-hour's time he got up and went home in a hack.

*Case 8.*—The last case was operated on March 27, 1901; a negro man who had tuberculosis of inguinal glands. Used cocaine in thirty seconds; 10.51, patient had no pain whatever; had some coughing; 10.56, involuntary expulsion of feces. When operation was completed patient was able to walk to his bed. He had the usual nausea and vomiting and headache that had occurred in all of my cases.

I do not believe the use of cocaine in the spinal canal will become very popular. We have to be extremely careful of the technique. I do not believe that any man, unless he has had considerable experience, should attempt it.

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## PLACENTA PREVIA.

BY W. H. MILLER, M.D., LITTLE ROCK, ARK.

The object of this paper is not to review the symptoms or clinical features of placenta previa, but to elicit a discussion on this very dangerous complication of pregnancy.

In 1789 Rigby defined placenta previa as the attachment of the placenta to that part of the womb which always dilates as labor advances; which definition is strictly accurate to-day, as is also the term unavoidable hemorrhage.

A review of the literature of to-day shows at least that it is more frequently reported as complicating pregnancy than in the past. Our text-books, most of them, give it a frequency of one in a thousand cases; a German clinic gives it one in a hundred and forty-three deliveries; the Philadelphia Lying-in Charity reports it one to a hundred and seventy deliveries. Be this as it may, we

as general practitioners may be so unfortunate as to have a case at any time. It is not necessary for me to refresh your memory on the varieties of placenta previa, as central, partial, marginal, or lateral. Nor do we have any one cause occurring in all cases. We know there are many contributing causes which may result in a relaxation and displacement of the uterus, such as subinvolution, chronic inflammation and congestion of this organ, most frequently found in multiparæ who have borne several children in a short period of time. Pregnancy occurring soon after a miscarriage; the uterus is enlarged by a previous pregnancy, and does not return to its normal size before pregnancy again occurs; the cavity of the uterus is not only enlarged, but its muscular structure is relaxed, and in this way we may have as a cause uterine fibroids or other abnormal growths. Threatened abortion, maybe a partial abortion, by which the attachment of the ovum to the fundus is interfered with, and it is thrown down and receives a secondary attachment nearer the internal os, at which point the placenta is developed.

The diagnosis is not usually difficult when we consider the most characteristic symptom, hemorrhage, occurring as it does most frequently in the latter months of pregnancy in a woman who has either borne many children or the present pregnancy happens very soon after the last labor or miscarriage. The time at which the hemorrhage occurs is determined by the degree of placental attachment over the mouth of the womb, taking place early in the complete, while in the marginal variety there may be no bleeding until a few days before term. In eighty per cent it does not occur until after the viability of the child. The bleeding may come on during the night when the woman is in bed, and is usually free from pain. The first hemorrhage is not usually severe, but the amount increases and the intervals decrease as pregnancy advances. It may come on from slight exercise, as reaching up or lifting, and a woman with such symptoms should be guarded with the greatest of care, because with each subsequent hemorrhage her life is endangered, and she may be carried away without a moment's warning. If hemorrhage occurs at the end of pregnancy it is not likely to be one of central implantation, but even in the marginal variety it may be sufficient to jeopardize the life of both mother and child.

In studying the sources of the hemorrhage, we have but to consider the normal agencies which control hemorrhage in natural labor, which are the obliteration of the sinuses by contraction and retraction of the muscular fibers and formation of the blood-clot.

In placenta previa we have exactly an opposite condition of

affairs. With each pain we have a wider and wider separation of the placenta and a greater stretching of the placental site, which, so soon as the pressure of the contraction is removed, permits the escape of blood in not only an unavoidable but an alarming manner.

As regards the prognosis to the mother, under the treatment adopted at the present time the lowest obtainable mortality has been reduced from forty to twelve per cent. This does not include, however, the many deaths occurring from sepsis and postpartum hemorrhage. And as long as the present mode of treatment is continued the fetal mortality will remain very high, probably as it is now, about fifty to eighty per cent. This, however, is not the fault of the operator, for many children perish from asphyxia and loss of blood both from mother and placenta before he sees or has control of the case.

There is as yet no ideal plan of treatment, for the life of both mother and child must be considered. If the child dies before labor is completed, we do not usually have such severe hemorrhage attending delivery. The connection between mother and placenta is in a measure severed. The first indication is to control the hemorrhage, which is most effectually done by means of the vaginal tampon, and the next by rubber bags, which act as a tampon and effect dilatation of the os at the same time. As soon as dilatation has reached a sufficient degree to admit the hand of the operator version is performed or the forceps applied, and accouchement forcé is practiced. Version is perhaps the most rational procedure, for the following reasons: In the introduction of the hand the placenta may be passed or punctured, and the feet brought down; then we have the best means of controlling hemorrhage. Labor is now allowed to proceed as in normal foot or breech presentation, the anesthetic being withdrawn or not as the attendant may think desirable.

A means which I want to offer for careful consideration is on trial and promises much in lowering at least the fetal mortality. I refer to Cæsarian section, and in selected cases I think it is very properly indicated. If the child is viable, the previa complete or partial, the cervix rigid, the fetus transversed, we may offer the patient the operation. On the other hand, hemorrhage appearing before the viability of the child, the previa marginal, the cervix dilatable, the fetal heart absent, then version or forceps would be preferable.

*Case 1.*—This was my second case of labor, and was seen through the kindness of Dr. Lindsey, who took me some six miles in the country after midnight, where we found a woman the mother of six or seven children, the youngest less than eighteen

months of age. She had lost considerable blood, pulse was weak, and no fetal heart sound could be heard. The os was slightly dilated, and the woman said she had not felt any movement of the child for some time. I administered chloroform, and Dr. Lindsey performed version and delivered the woman of a dead child. She had a long and tedious recovery, and remained anemic and did not menstruate for more than two years.

*Case 2.*—Wife of a doctor, mother of three small children. Her husband called me to assist in controlling the bleeding, which he had arrested by means of a vaginal tampon; the woman was almost pulseless and had sighing respirations. We administered restoratives, such as brandy, strychnine, and saline infusions, and in about ten hours she had rallied and the pains returned, and I found sufficient dilatation to allow me to apply forceps and deliver a living child. The placenta was adherent on one side, and there was some hemorrhage post-partum, which we controlled with hot water injections. Another saline infusion completed the treatment. She had some fever, but otherwise her convalescence was satisfactory.

*Case 3.*—Married twelve months, had a miscarriage in July, menstruated in August, after which she became pregnant (just one month after her miscarriage). She had a hemorrhage which awakened her during the night. I saw her the following morning. She said she had her sickness, and that she had menstruated four weeks previously, but it was not so free as at the present period. I put her to bed and telegraphed for her husband. I called during the day and found her resting quietly; no bleeding. The next morning her husband decided he wanted another doctor to attend his wife, and frankly told me I was mistaken in her condition, and was very mad because I had unnecessarily alarmed her. Dr. Lindsey fell heir to the case, and in a few days the hemorrhage returned. He tamponed the vagina to control the excessive bleeding, after which he perforated the placenta and delivered a seven months child by version.

*Case 4.*—Young woman pregnant for the first time. During six weeks of pregnancy had cramps in womb, and the doctor who attended her thought she would abort, but by appropriate treatment it was prevented until the sixth month, when as she was lifting a bucket of water she felt a discharge, and going to her room found she was bleeding, which continued. After consultation with Dr. Jenkins we decided abortion was inevitable, there being no evidence of fetal movement or heart sound. The vagina was tamponed, and fifteen grains of quinine was administered by mouth. This increased uterine contraction, and in eight hours we found the os sufficiently dilated to proceed with

delivery, when I discovered for the first time that she had placenta previa. Perforating the placenta with a pair of large dressing forceps, I found by introducing my finger through the opening and over the placenta that the nearest border was on the left side of the uterus. I then removed that portion of the placenta and delivered the fetus by grasping the head in my dressing forceps. The woman's recovery was perfect, and she is now eight months pregnant.

*Case 5.*— This was being attended by a midwife, who had stopped bleeding with linen rags wrung out of vinegar and packed in vagina. I passed my hand by placenta, brought down feet, and delivered a living child. Woman had fever, which I attributed to infection rather than to the loss of blood. She finally recovered, but is scarcely able to care for her large family of little children.

*Case 6* (with Dr. Meek).—He had tamponed the vagina, which had effectually controlled bleeding. Tampon was removed, and another one was introduced and allowed to remain for ten hours. When again removed dilatation was sufficient to allow Dr. Meek to apply forceps and deliver child. Mother recovered.

*Case 7.*—Might have been a good case for Cæsarian section if she had not insisted on being relieved at once of her dangerous condition. The case presented similar symptoms to No. 3. Under chloroform dilatation was effected sufficiently to allow the introduction of McLean's rubber bag, which was inflated with sterilized water. This controlled hemorrhage completely. After two hours a larger bag was introduced which remained for three hours more, when it was removed and the fingers introduced, and by the bipolar method feet were brought down. I had great difficulty in delivering the child on account of the rigidity of os. There was a very small amount of blood lost, and her recovery was prompt. Previa was nearly central.

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## SEXUAL SELECTION AS A CORRECTIVE INFLUENCE.

BY G. R. JOHNSON, M.D.

It is a common phrase, used fatuously by the world, that the tendency of everything is downward. Houses gradually decay, machinery wears out, and people grow old. But we are not apt to look upon the brighter side of things and recognize the efforts which nature makes in an upward direction: for example, it is a common tendency in every age to bemoan its degeneracy and its loss of vitality in various ways. This tendency is by no

means a modern one; it has existed ever since human thought has expressed itself.

The physician who studies the question of family histories, who sees neurasthenic tendencies increase, syphilitic taints handed down, and the stress of life and unhygienic surroundings making conditions worse, is ever prone to wonder that things do not grow worse. Undoubtedly, one of the greatest influences to prevent this downward tendency is the force which Darwin has nicely expressed in the term "sexual selection." Darwin applies this term to a principle which depends upon the success of certain individuals over others of the same sex in relation to the propagation of the species.

According to his great principle of the survival of the fittest, which is "natural selection," those individuals who have been the most successful in the struggle for existence survive the others, and those characteristics useful to the species are handed down. But according to the principle of sexual selection those individuals have the greatest chance of success in the struggle for mates, and their characteristics are handed down to their offspring, and are afterward intensified by the operation of like causes. This sexual struggle is of all sorts. In one, these individuals, generally the males, try to drive away or kill their rivals; in the other they seek to excite or charm those of the opposite sex, who select the most attractive males for their partners, therefore they require two varieties of characteristics on the part of the male. In the first place they require courage, vigor, and weapons for battle, and in the second certain forms, colors, ornaments, sounds, or odors, depending on the taste of the females. This latter quality is acquired because it is considered beautiful or agreeable, whereas in natural selection the characteristics are acquired because simply they are useful. This is a wonderful esthetic quality and has a great influence upon the race. Darwin has written: "The senses of men and of the lower animals seem to be so constituted that brilliant colors, and certain forms, as well as harmonious and rhythmical sounds, give pleasure, and are called beautiful, but why this should be so we do not know."

It is claimed by the opponents of Darwin's theory that in adopting the idea of sexual selection he has been compelled to drop the efficacy of natural selection, or at least to admit that some supposititious cause is necessary to bolster it up. These opponents claim that this form of sexual selection interferes with the process of natural selection, for the brilliant colors, topknots, and fine plumes of many male birds are not naturally any protection to them, but frequently lead them into danger. Also, when we realize what an important part is played by colors as a means of

protection in the animal kingdom, it is undoubtedly true that the brilliant hues of many male animals make them more conspicuous to their enemies.

Darwin has shown that choice takes place even among the lower vertebrates, and judging from what we know of domestic animals, this is more common in the case of the females than in that of the males—in fact, the male, among domestic animals, seems to be such an obedient animal that he is ready to pair with any female provided she belongs to his own species. It is a well known fact that aversion between allied species in the wild state is more frequently overcome by the male than by the female, and that in crosses between wild and domesticated animals the female generally belongs to the domesticated species. This is probably due to the fact that the sexual instinct as it becomes less intense becomes more discriminating. Among the lower tribes of men, even, this peculiarity has been noticed. For example, the Maoris have a proverb which says: "Let a man be ever so good looking and yet he will not be much sought after, but let a woman be ever so plain men will still eagerly seek after her."

In Central Africa, according to McDonald, many cases are known of slave wives running away from free husbands, but not one of slave husbands running away from free wives.

In the crossings between unequal human races, such as is seen between the Indian and white races, the father nearly always belongs to the superior race. As a rule the woman refuses to lower herself, but the man is less delicate. Even as far back as the last century it was difficult to find any one who was the offspring of a negro man and a white woman, and it is reported from New Zealand by Kerry-Nicholls that he has not found one case where a European woman married a Maori man.

The woman's instinctive inclination to strong and courageous men is due to natural selection in two different ways. In the first place a strong man is apt to be the father of strong children, and he is also better able to protect his offspring than a weak man, and the female instinct is especially well marked in the lower stages of civilization. Of course, bodily vigor is of the utmost importance in the struggle for existence in that strata of society. In civilized society infirmity and sickness are not always a serious hindrance to love, but in the savage state Humboldt states nothing could induce a man or woman to unite himself or herself to a deformed or unhealthy mate. The Greeks so expressed themselves by making Eros, the male god of love, an extremely handsome youth, while Aphrodite was the goddess of beauty as well as of love. And yet, in the various races the idea of beauty varies almost infinitely. Hume has stated that beauty

is no quality in itself, but exists simply in the mind which contemplates it; therefore each man observes a different beauty. To the mind of the white man a flat, retreating brow would spoil any face, but the Chinook ideal of facial beauty is a straight line from the end of the nose to the crown of the head. A snub nose may embitter the life of an American girl, but the Australian natives, on the other hand, laugh at the prominent noses of Europeans and call them "tomahawk" noses, while the Tahitians say what a pity it is that English mothers pull their children's noses so much and make them so frightfully long. Again, the Anglo-Saxon admires white teeth and rosy cheeks, but the servants of the King of Cochin spoke with contempt of the wife of the English ambassador because she had white teeth like a dog and rosy cheeks like a potato flower.

Many curious customs have developed on account of this idea of beauty, one of the strangest being among the South American Uaupes, where a swollen calf is considered one of the chief attractions of a young woman, and the result is that girls of that country wear tight garters below the knee from infancy. The famous master painters of the middle ages invariably represented the standard of beauty according to that of their own country. Rubens's women, to a Fleming, are the most beautiful in the world, and so are Raphael's to his compatriots. At the same time there are certain definite traits which a human form must approach in order to reach perfect beauty. In the first place there is the difference between masculine and feminine beauty, and to be really handsome a person must approach the ideal type of his or her sex. The male organism should be remarkable for the development of the muscular system, while the female for that of the adipose elements. Conspicuous muscles are considered to improve the appearance of man, rounded forms that of woman. The natives of Guiana express their idea of beauty in woman when they say she is fat and has a narrow forehead. Among many savage tribes women take immense quantities of milk and butter to make themselves more attractive. Among Caucasians men are on the average from two to three inches taller than women and have greater breadth of shoulder. A tall, broad-shouldered figure is considered by Caucasians as the ideal of manly beauty, while a woman who is overtall or overbroad is regarded as awkward. A woman's face should be shorter, her mouth less broad, her nose less prominent, her neck longer, her pelvis wider, her waist narrower, and her fingers more slender and pointed. The dividing line of woman's figure is lower than that of a man, making her steps shorter and lighter. Among uncivilized races this rule is not so prominent: for example, among

the natives of King George's Sound, Cook relates that the women are nearly of the same size, color, and form as the men, from whom it is not easy to distinguish them; in fact, among some tribes the women are reported as being larger and more strongly featured than the men. Yet, while an ideal of beauty is common to the human race, it can never be fully realized on account of the specific differences. Every one knows that a face without a nose is ugly, and yet there is no form of nose that is universally admired.

Each nation attaches to the idea of beauty that which characterizes its own physiognomy. If nature has bestowed very little beard, a narrow forehead, or a brownish skin upon a race, each member of it thinks himself beautiful in proportion as his face is destitute of hair, his head flattened, or his skin covered with some coppery red color. These peculiarities are frequently intensified by the actions of the various races. Some tribes of Indians, for example, with low and flat foreheads have frequently exaggerated this natural peculiarity by an artificial flattening of the forehead. Among the Chinese the well known feature of small feet is considered a woman's chief attraction, hence the feet of girls are compressed from early childhood, and yet it has been determined by Schwartz that Chinese women naturally have very small feet, which fact has distinguished them from their Tartar neighbors. The Greeks, on the other hand, with a facial angle of 85 degrees, raise this to 100 degrees in the statues of their heroes. When we come to the question of color, each race regards its own generally as the best. Barrington relates a story of an Australian woman who having a child by a white man smoked it and rubbed it with oil to give it a darker color. Among the Malays, the standard of color being yellow, the East Insular lover compares the color of his mistress to the yellow of gold, just as the European compares his to the whiteness of the snow. Humboldt explains the painted body of the savage as intended to exaggerate the natural color of the skin. Even among the people of the Coromandel Coast, where the children are as black as black can be, it is thought by their parents that they should be blacker, and therefore from the day of their birth their parents rub them with oil of sesame. They carry this idea into their worship, making their gods black and their devils white.

Now the problem arises as to the connection between love and beauty. On the one hand the esthetic pleasure excited by beauty is disinterested in character, while the intrinsic character of love is the reverse. It is a difficult thing to explain the difference between these two feelings. It is probably somewhat as follows: Underlying the physiognomy of every race there is something

peculiar to the people which extends to them all. This is frequently noticed in the travels of people to other countries or around the world. One illustration will be sufficient. A party of Americans thrown exclusively into the company of Germans from the time they left New York until they reached England, two months later, were surprised to find with what eagerness they looked forward to meeting fellow countrymen again, and each one of the party felt instinctively that there was something about the Americans whom they met that was peculiarly attractive to them, not possessed at all by the educated Germans with whom they had been living. And this was true despite the fact that they realized that the Americans whom they met would not have been especially attractive to them in their native land.

There is no doubt that sexual selection has considerable influence upon the physical aspect of mankind. It has been remarked by acute observers that personal deformities are rare among savage races. This is due to the fact that cripples seldom survive the hardships of early life, and if they do they experience an aversion which prevents them from propagating their deformities. It is also a curious fact that men, among savages, are generally handsomer than the women, while in civilized society the reverse is true. The savage woman has greater liberty in disposing of her hand, while among us, on the contrary, a man's ability to marry depends only to a small extent upon his personal appearance.

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THE widow of the late Dr. Alex. J. C. Skene, of Brooklyn, has announced, says the *New York Medical Journal,* that she proposes to donate to Miss Mary A. Fisher the sanatorium conducted by Dr. Skene for the establishment of a Mary Fisher Home and Sanatorium for writers, artists, teachers, and representatives of any of the professions. The property donated is located at 759 President Street and is worth $100,000. To her generous gift Mrs. Skene will add the endowment of a room in memory of her husband, this room to be always set apart for the use of some physician in need of a home. The erection of a hospital in Brooklyn for self-supporting women was planned some time ago by Dr. Skene, but death came before his plans could be put into execution. While the proposed donation of his widow is not solely in the interest of women, as both sexes are admitted to the Mary Fisher Home under its present management, it is considered as being in the nature of a substitute for the hospital which Dr. Skene did not live to see erected.

# THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

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## EDITORIAL ARTICLES.

### THE EXCLUSION OF CONSUMPTIVES FROM FAVORED LOCALITIES.

The modern facility for segregating tubercular patients in definite localities possessing climatic advantages is one which has not been without its disadvantages. This has recently been recognized by a proposition on the part of some Colorado legislators to pass a law prohibiting the admission to the State of aliens suffering from tuberculosis. Still more recently it is reported that the hotel proprietors of the French Riviera have met together, and discussed discouraging the admission of tubercular subjects to their hotels. Of course nothing has come out of these propositions, as public opinion and private interest are as yet opposed to each other, and any harsh treatment of the tubercular subject would call down vials of wrath upon the head of the offender; but they serve nevertheless to show which way the wind is blowing, and they indicate that there is growing in the mind of the public, right or wrong, a conception of the danger attendant upon segregation.

The idea that tuberculosis is a transmissible disease is one which, as it takes root in the public mind, must naturally lead to many misconceptions. The difference between degrees of transmissibility is one not easily recognized, and it will be difficult to establish clear and definite distinctions of danger limits in the lay mind. The risk of infection, however, comparatively small, will actuate many to avoid localities in which the subjects of the disease are accustomed to congregate. It is, however, this fear of infection which will ultimately bring about a clear understanding of the character of the *materies morbi,* the necessity of its destruction, and furthermore will slowly but surely tend to check the marriage of those of pronounced consumptive tendency. The fact that tuberculosis is everywhere endemic, and that its subjects can never be excluded from any locality, favorable or unfa-

vorable for its treatment, should be apparent to those who with more enthusiasm than judgment seek to circumscribe themselves with protective barriers. It is morally certain that any action which would deprive these unfortunate invalids of common human rights would never receive the sanction or approbation of the public.

The best thing for those who are brought into actual sociological relation with consumptives, whether as landlords, legislators, or public officials, is so to order events that the public may be taught how to preserve an immunity against infection.

So too must the individual patient realize that climatic treatment is not a cure, but rather a means of instructing the invalid in good habits of life and of impressing upon him the necessity of introducing the hygienic life into the home.

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## EDITORIAL NOTES.

### The Need of Attendants for Convalescents.

A writer in a recent issue of the *Journal of the American Medical Association* advocates the plan of hospitals establishing courses for young women where they can be taught the elementary principles of caring for the sick. That this would certainly fill a long-felt want is well known to all physicians, who often find themselves badly handicapped in the treatment of their cases, especially chronic ones, owing to the inability of the average wage-earner to employ a graduate nurse at the present high price required for such service. Young women of fairly good intelligence could find this work much more lucrative than standing behind shop counters for nine hours a day.

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### Camphormania.

A French medical journal tells us that the American ladies finding morphinomania out of fashion have adopted the camphor habit. They imagine that this gives them a fresh complexion. Little by little they become accustomed to the drug, and this in time acts the same as morphine. With camphor habitués one observes somnolence, intellectual torpor, and general feebleness, and the face takes on an expression of apathy and indifference

as if it were covered by a mask. The journal does not say whether these ladies are real American Americans, or Americans of the French variety.

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### A Remarkable Case of Fecundity.

At the present time when so many medical writers are deploring the fact that so large a proportion of our native women refuse to bear children, it might be well to record the case of one who has done more than her share of duty toward the State. She is a Mrs. Swartwood, an intelligent American-born woman of forty-three, living at Mountain Top, a village some eight miles from Wilkesbarre. Mrs. Swartwood was married at the age of thirteen, and has in the thirty years of her married life borne twenty-four children, of whom twenty are now living.

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### The American Medical Association.

The meeting at Saratoga Springs will probably not be accounted the most successful, though the section work was good in quality and the discussions animated. The new house of delegates was in session daily, and it is said that this feature of the society's make-up has not so completely eliminated the medical politician as it was hoped it would. In electing Dr. Billings its president, the society recognized the merits of an illustrious physician.

# ITEMS AND NOTES.

YELLOW FEVER has again broken out in Vera Cruz, Mexico.

ALL the vacancies in the Navy Medical Service are filled for the first time since the civil war.

THE Paris courts have settled by legal decision that two dollars be the ordinary visit fee of a physician.

THE Texas State Medical Association has adopted resolutions advocating State control of tuberculosis.

THE American Dermatological Association announces its next meeting for September 18 to 20 at Boston.

HALF RATES will now be granted by the German railroads to all persons traveling to or from the Sanatoria.

DURING the months of January and February there were 800 deaths from typhoid fever in the British army.

PROFESSOR VIRCHOW has so far recovered from his recent accident as to be able to leave Berlin for the seashore.

THE Indiana State Board of Health, from the reports communicated, says that typhoid fever is coming under control.

A LAW has been passed by the canton of Tessin in Switzerland providing for the payment by the State of the fees of midwives.

ACCORDING to statistics the number of female physicians throughout the entire world is about 8000, two-thirds of whom live in America.

THE bill to permit the retirement of Surgeon-General Sternberg with the rank of major-general was defeated in the House of Representatives.

A BILL is now before Congress considering the advisability of decreeing that reading matter for the blind shall be sent through the mails free of postage.

KING EDWARD desires that the offerings usually tendered a ruler in honor of the coronation shall be in the form of donations to the King's hospital fund.

MRS. C. P. HUNTINGTON has made a donation of a hundred thousand dollars to the General Memorial Hospital for the Treatment of Cancer and Kindred Diseases.

THE lying-in hospital which was erected by J. Pierpont Morgan on Stuyvesant Square, New York City, now finds itself with funds wholly inadequate for its support.

THE Senate has passed a bill for the establishment of a National Sanatorium for Disabled Volunteer Soldiers at Hot Springs, South Dakota; $150,000 was appropriated for the necessary buildings.

AN appeal has been made to the Italian government by the native physicians to forbid the practice of medicine in that country by foreign physicians. The government, however, failed to concur with their request.

THE Army Medical Board, which has been in session in Washington since April 3, for the examination of candidates for commission in the medical department, has examined six classes, yet has found but nine candidates qualified for appointment.

TO prevent smallpox from developing on troopships Lieutenant-General Miles has directed that troops ordered to the Philippines shall be provided with certificates showing that they were inspected before leaving their stations and were protected from smallpox.

FROM bacteriological investigations made at the Hospital du Bey, Algiers, it has been found that almost all varieties of bacteria occur upon currency. Metal, however, has a certain antiseptic effect, causing the bacteria to be short-lived. The action of gold is less marked in this respect than in other metals. Typhoid bacilli will live from five to seven days on a gold piece, but die in less than eighteen hours on other metals.—*Philadelphia Medical Journal.*

A BUENOS AYRES scientist has discovered what is said to be the smallest microbe yet known. He says that it is much smaller than the influenza bacillus, and is only just discernible when magnified 1500 times. This tiniest of bacteria produces, says the *Philadelphia Medical Journal,* abscesses in cattle known in South America as manguea. The hotter the climate the more fatal is the infection. If, however, the abscess is opened early, the progress of the disease is arrested and the animal saved.

DR. WILFRID GRENFELL, the English physician who is devoting his life to the amelioration of the fishermen of Labrador, writes that at present there is great destitution among the inhabitants. His work ranges from treating a compound fracture to making a pair of boots from the skin of a freshly killed seal. In

the summer Dr. Grenfell journeys along the coast in a steamer, the hospital ship *Strathcona;* in winter his tours are made on dog sleds. He has recently established a third hospital at St. Anthony, on the north French shore.

NEXT to Sardinia, the province of Basilicata, near Naples, is the largest malarious tract in Italy. In killing the larvæ of mosquitoes an analine dye is used, which is efficient even when diluted to the extent of 0.00031 per 1000. A powder is also used, made from the flowers of the *Pyrethrum roseum,* cultivated near Ceprano. Valerian root mixed with this renders it more efficacious. Professor Grassi, following experiments with a compound called esanofele, composed of quinine, arsenic, iron, and bitter herbs, six pills of which were given daily, speaks highly of his results.—*Exchange.*

AT a recent meeting in New York a Mrs. Annable made a statement (*American Medicine*) that a certain woman of evil habits, which included excessive indulgence in alcoholic stimulants, and whose occupation was the keeping of a house of ill-repute, died in 1827, aged fifty-one. Her descendants have now been traced. They number 800. Of these 700 are criminals, having been convicted at least once; 342 of them are drunkards; 127 are immoral women; 37 were murderers, and as such executed. For the trials and executions of this family the nation has paid out the sum of $3,000,000.

To celebrate the seventieth birthday of Dr. Ernst von Leydon, an "Internationale Beitrage zur inneren Medicin," in two volumes, has just appeared, containing ninety scientific articles by his former pupils and friends from over the entire world. The value of this "Festschrift" is far above any previous work of the kind. Among the ninety collaborators may be mentioned Nothnagel, Edinger, Goldscheider, Huebner, von Bechterew, Marie, Marinesco, Ehrlich, Wassermann, Huber, Knopf, von Koranyi, Broadbent, Renvers, Ewald, Babes, Celli, Courmont, Karamitsas, Kernig, von Schrotter, Senator, Bouchard, Quincke, Fraenkel, Baginsky, Pel, Naunyn, Stokvis, Eichhorst, Kraus, Metschnikoff, Salkowski, von Jaksch, Klemperer, Wolgemuth, Schaper, Gerhardt, and Michaelis.—*Philadelphia Medical Journal.*

WUTZDORFF has recently collected, says the *Philadelphia Medical Journal,* a great quantity of cancer statistics. During the seven years from 1892 to 1898, the deaths from cancer in Germany increased 18.5 per cent. A satisfactory explanation of this increase in the number of deaths from cancer has not yet

been found. In England, from 1881 to 1889, the increase in the deaths from cancer amounted to 56.3 per cent among males and 32 per cent among females. In the Netherlands, from 1874 to 1897, deaths from cancer increased more than 80 per cent. In Switzerland also there has been a marked advance in the number of deaths from cancer from 1889 to 1898. In the United States similar conditions exist. In Massachusetts there died of cancer in the year 1856, per 100,000 inhabitants, males 12.9, females 24.5; in 1895, however, 44 and 94.4. In the State of New York the cases of cancer increased from 2473 in 1888 to 4117 in 1897.

A NUMBER of cases of leprosy have been found among the natives of the Island of Guam, and steps have been taken, says the *Medical Record,* by the medical authorities of the navy for their collection and segregation. The establishment of a permanent colony on thirty acres of ground on Tumon Bay Beach, within practicable reach of Agana, the chief town of Guam, by a fairly good road, is intended. Steps have already been taken to acquire this ground, and plans are being prepared for the necessary buildings. It is understood that the nursing of the unfortunates will be undertaken by a Catholic religious organization. The report says: "It appears that during the interregnum immediately following the withdrawal of the Spanish government from the island, the lepers gradually slipped out of the Asan hospital, being received and cared for by the kind-hearted people of the villages, who are loath to betray them. When the last inmate died it was generally asserted that the disease was practically extinct; several reported cases proved, upon examination, not to be leprosy, and such search as was feasible failed to discover any until now. It is believed that no material harm in the way of dissemination has resulted from this recent lack of segregation."

IT is understood, says the *Medical Record,* that Surgeon-General Rixey contemplates the establishment at the Naval Museum of Hygiene, in Washington, D. C., of a school for naval medical officers modeled on the lines of the Army Medical School, which was founded in 1893. Instruction of young medical officers of the navy in special subjects has in the past been given in a short course at the Naval Hospital in Brooklyn; but this course is recognized as being insufficient, and the instruction to be given in the new school, which it is expected will go into operation in the fall, will be on a much broader basis. Besides giving instruction to newly appointed medical officers of the navy in the proper performance of their duties, the school will also serve a purpose as a place where medical officers of longer service, returned from

a tour of sea duty, can refresh their knowledge on special branches and fit themselves for examinations. It is also understood that Surgeon-General Rixey expects to establish a school for the instruction of the enlisted men connected with the medical department of the navy, probably at the Navy Yard at Norfolk, Va. A special board of medical officers has for some time been engaged in securing information on this subject and preparing plans for the proposed institution, which will closely follow the lines of the Army School for Hospital Corps Men, at Washington Barracks, D. C.

Mr. Alfred J. Henry, professor of meteorology of the Weather Bureau of the United States Department of Agriculture, has published a bulletin relating to this subject. The number of persons killed by lightning during 1900 was 713; of this number 291 were killed in the open, 158 in houses, 57 under trees, and 56 in barns; the circumstances concerning the death of the remaining number are not known. To this may be added the number injured, which was 973. Professor Henry prepared a paper some time since on the relative frequency of fatalities by lightning in the several States and Territories. He then recorded the statistics for a period of three years, but thought best not to draw conclusions from them owing to the length of time covered. In this recent bulletin he states that the number of fatalities must depend partly upon the frequency of the lightning strokes per unit area, also upon the density of the population and the character of the thunderstorms which traverse the region. Thunderstorms occurred with considerable frequency in that part of the United States east of the one hundredth meridian, excepting a strip along the northern border. West of this section, not including the Rocky Mountains, the frequency of storms steadily diminished, practically reaching zero directly on the Pacific coast. The largest number of fatalities occurred in the Middle Atlantic States; the Ohio Valley and Tennessee ranked second, and the middle and upper Mississippi Valleys filled the third place. During the years 1896 to 1900 the greatest number of deaths from lightning occurring in any one State were in Pennsylvania, 186; in Ohio, 135; and in Indiana, Illinois, and New York, 124 each. The greatest fatality from any one stroke occurred in Chicago, when 11 persons crowded together in a zinc-lined hut were killed instantly by one bolt.

New ideas in hospital construction have been carried out in the building for the clinic maintained by St. Bartholomew's Church, New York, opened recently for inspection. The window and exterior door frames are covered, according to *American*

*Medicine,* with copper, the sash and interior doors are covered with kalsomined iron, the interior door frames are of cast iron, and the shelving, table tops, etc., are of stone or steel held on iron supports, so that no woodwork appears. The building above the basement is marked by the entire absence of any angles or projections. All intersections of all surfaces meet with a uniform curve; this has been carried out not only in the walls, ceilings, and floors, but also on the stairs, shelf and table standards, window recesses, etc., throughout. The sash and doors are so constructed that there are no moldings or broken surfaces between the frames and glass or panels. The surface of the frame meets the glass with a feather edge, and the corners of the sash and door panels are also rounded, so there may be no lodging place for the collection of dirt or foreign matter. The angles or corners above the wainscot line are run in plaster. All furniture used in the building is of steel of unusually exact workmanship after special designs, and finished in white enamel.

At a recent meeting of the Academy of Medicine of Paris MM. Chipault and Lefur read the clinical history of an interesting case of a man who, without any appreciable affection of either the nervous system or of his viscera, suffered atrocious abdominal pains for years. During these paroxysms of pain, which were most intense at the navel, the body was strongly flexed, and the abdominal muscles contracted violently. The hyperalgesic region corresponded to the area of distribution of the eighth, ninth, and tenth dorsal ribs. Hypodermic injections having given no good results, spinal injections were tried, and they also failed. It was now decided to cut the intercostal nerves of the area of greatest pain, and this was done without any benefit. The posterior laminæ of the eighth, ninth, and tenth dorsal vertebræ were then incised, and the posterior roots of the corresponding spinal nerves cut. When the spinal cord was exposed there was found a localized patch of arachnitis of some standing. The result was eminently satisfactory. At the end of the month the hyperalgesic zone had disappeared, and gradually the severity of the paroxysms of pain diminished until they finally ceased.—*Medical Press.*

# NEW PUBLICATIONS.

## THE GENITO-URINARY NEUROSES.

The name of Ultzmann has been so intimately associated with genito-urinary studies, that more than ordinary interest will attach itself to his latest work. This consists of monographs, collected by a very competent editor, bearing upon neuroses of the sexual system. The editor adds an article on the nervous impotence.

Neuroses of the Genito-urinary System in the Male. With Sterility and Impotence. By Dr. R. Ultzmann, Professor of Genito-urinary Diseases in the University of Vienna. Second Edition, Revised, with Notes and a Supplementary Article on Nervous Impotence by the Translator, Gardner W. Allen, M.D., Surgeon in the Genito-urinary Department of the Boston Dispensary; Instructor of Genito-urinary Surgery in Tuft's Medical College. Illustrated. Philadelphia: F. A. Davis Co.

## THE SURGERY OF THE RECTUM.

The sixth edition of Professor Kelsey's Surgery of the Rectum bears testimony to the fact that this well known work stands unrivaled as an authority in the special domain of surgery of which it is the mouthpiece. The work is thoroughly modern in spirit, and the new edition comprises a description of all the latest expedients in this branch of surgical art. The well known character of the work and the wide reputation of its author make extended notice of its many excellent points unnecessary.

The Surgery of the Rectum. Sixth Edition. Edited by Charles B. Kelsey, A.M., M.D. New York: William Wood & Co.

## PROCEEDINGS OF THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION.

The proceedings of this society contains an unusual number of articles of more than ordinary interest. They form a volume which will be found of higher literary and scientific value than the ordinary collection of society proceedings is usually found to be.

Proceedings of the American Medico-psychological Association at the Fifty-seventh Annual Meeting held in Milwaukee, Wis., June, 1901. Published by American Medico-Psychological Association.

# THE PROGRESS OF MEDICAL SCIENCE.

## SURGERY.

### Gunshot Wounds of the Knee-joint by Projectiles of Reduced Caliber.

Gunshot wounds of the knee-joint by projectiles of reduced caliber are discussed by L. A. LaGarde (*Boston Medical and Surgical Journal,* May 22, 1902). Gunshot wounds of the knee-joint during the time of war-hospitals were divided in the following manner, and may, according to the author, be similarly classified now: (1) Simple perforation of the synovial sac without accompanying lesions of any bone. (2) Injury to the joint with lodged ball. (3) Injury to the joint, exhibiting guttering of the articular ends of the bones. (4) Complete perforation of the bone, traversing the joint in different directions. (5) Implication of the joint by fissuring and comminution of the bones entering into its formation. During the preantiseptic period the treatment employed was: (1) Amputation; (2) conservatism; (3) excision. This was followed by a clean wound treatment, inaugurated by the advent of antisepsis.

According to La Garde the predictions of von Coler, that if it be found that wounds by the smooth bore are aseptic joint wounds will be the most favorable of all bone injuries to treat, have been fully established, as the following recapitulation from the author's article shows: (1) We find that the mortality of gunshot injury of the knee-joint in the civil war was 53.7 per cent, and as amputation was universally done all those who recovered escaped with the loss of a limb, unfit for duty; (2) that thirty-three cases of gunshot wounds of the knee produced by the larger caliber lead bullet in campaign, reported by Reyher and von Bergmann, treated antiseptically, gave a mortality of 11.1 per cent; (3) that sixty-two cases produced by a variety of missiles reported by the Surgeon-General since 1898, similarly treated, gave a mortality of 8 per cent, and that 45.6 per cent of those who recovered were restored to duty; (4) that of nineteen cases in the Santiago campaign by the reduced caliber bullet, the mortality was *nil,* and that 73.6 per cent of the wounded recovered fit for duty. It is thus seen that the humane features of the reduced caliber bullet have operated not only in diminishing the mortality in gunshot injuries of the knee from about 8 or 11 per cent to *nil,* but that it has increased restorations to duty 28 per cent.

## Cancer of the Breast.

Thos. Bryant (*Medical Press,* May 21, 1902) presents a summary of forty-six cases of cancer of the breast upon which he operated. He expresses the conviction that the results of operations for cancer, whether of the breast or elsewhere, would be much better than they now are if they could always be undertaken during the early development of the disease, as illustrated by the majority of the cases; that every breast tumor, neither clearly inflammatory nor encapsuled, which seems to involve gland tissue, and may therefore be cancerous, should be at once explored and removed if found to be cancerous, with the whole gland; and that recurrent growths when localized should be similarly treated.

The author in concluding his paper says: "In advanced and neglected cases, where the lymphatic glands and covering integument are involved, Moore's, Bank's, Halsted's, or Gould's so-called complete operation may be called for, but its results are not by any means so likely to be favorable as those I have reported. Lastly, in cases of recurrence not favorable for operation, unless the removal of the ovaries can be shown in the future to be successful, the *x*-rays should be employed, for the benefit which has been derived by this treatment when judiciously applied by men of understading has, in my own experience, been so successful as to raise hopes which I hardly like fully to express, and at the same time seems to be free from danger or serious consequences when utilized by those who know the dangers of penetrating rays carelessly employed, and the difficulties with which the practice bristles. I must, however, add that the influence of the rays, to make them effective, must be maintained for several months after it has seemed to be beneficial; a three-months' course, with about three applications a week, appears to be the shortest from which any permanent good is to be expected, and this treatment is full of hope."

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## Coin in the Esophagus for Five Months.

A. R. Colvin (*St. Paul Medical Journal,* June, 1902) reports the following case:

Child two and a half years old swallowed a one-cent piece on November 12, 1901. The father gives the following history: The child immediately had difficult and noisy breathing, which continued for two or three hours; a moderate amount of bleeding was noticed. On the following day she refused to swallow any-

thing. Solid food which had been previously ingested was, however, vomited. On the third day she was feverish and vomited very frequently; after this time she swallowed and retained liquid nourishment, but refused solid food then and since. I saw her first April 19, 1902. At that time her only complaint was of some soreness in her throat. Her present condition is that of a well nourished, healthy child.

With the fluoroscope the one-cent piece could be seen about one inch below the upper end of the sternum; it moved upward and downward and laterally with forced respiratory movements. Under ether anesthesia a coin-catcher was passed quite easily beyond the object. While one watched the introduction and withdrawal of the instrument with the fluoroscope, the coin was comparatively easily removed.

Following its removal there was some slight bleeding, and on the second day a maximum temperature of 102° F.; on the third day the temperature was normal, and swallowing was apparently not accompanied by pain.

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## The Surgical Treatment of Prostatic Hypertrophy.

Palliative measures, according to C. H. Chetwood (*New York Medical Journal,* May 31, 1902), should not be persisted in when they fail after reasonable trial to produce and maintain an abatement of symptoms.

A first infection of the bladder is not alone sufficient excuse for operation unless palliative measures fail to promptly subdue inflammatory conditions.

Recurring infection of the bladder or ascending infection of the kidney is sufficient warrant for operative interference.

There is a growing tendency toward earlier operation than was formerly practiced.

The greater number of cases of prostatic hypertrophy can be satisfactorily reached through a perineal incision.

In the large majority of cases the requirements of any operation upon the prostate consist in the removal of the obstructing area and depressing the bladder opening into the prostate, so that the bas-fond may be properly drained.

In many cases the obstructing area of the hypertrophied gland can be satisfactorily reached and effectually removed through a perineal opening by means of galvanocaustic incisions.

## The Symptoms of Chronic Non-alcoholic Gastritis.

G. R. Lockwood (*Medical Record,* May 31, 1902) says that in uncomplicated chronic gastritis not of alcoholic origin, if the muscular power of the stomach be good, the only symptom apt to be referred to the stomach is acidity. This occurs in about half of the hyperacid cases, but may be observed in the cases of complete achylia. Cases with normal acidity, and the vast majority of cases of anacidity, give no gastric symptoms.

The hyperacidity cases may give a course resembling that of a neurosis in that the symptoms are intermittent and are easily influenced by nervous conditions. It would seem, however, that a long-continued gastric neurosis is exceedingly rare, and that the great majority of such neuroses are rarely the neurotic outbreak of an organic lesion.

In gastritis, contrary to the accepted teachings, the following negative facts are to be noted: (*a*) The appetite is good. The few exceptions are observed in advanced atony, where the quantity of food is not well borne, and in cases of neurasthenia. In neither case, however, is the gastritis itself the cause of the anorexia. (*b*) Pain occurs in two ways: (1) from acidity differing in no way from similar pain in cases of nervous hyperacidity; (2) from gas. This latter pain differs in no way from that observed in cases of simple atony without gastritis, so that pain does not seem to be a symptom of gastritis proper. (*c*) Nausea does not occur in relation to meals. Patients with atony, and those who are neurasthenic, may complain of nausea, but the nausea is not related to meals, and does not interfere with a normal appetite. It usually occurs when the patient is tired or nervous. (*d*) Vomiting does not occur in the non-alcoholic cases. (*e*) Unless there be diarrhea the nutrition is good, and as a rule the patients are not anemic. Exceptions may be made in cases of atony, but in these cases the anemia may well be the primary condition.

If the muscular power be poor, gas is present as a prominent symptom. This is more apt to occur in hyperacid cases, and is probably due to swallowed air. As this same symptom is observed in a similar number of cases of simple atony, the symptom is not directly due to the gastritis.

Gastritis may give rise to severe and long-continued diarrhea and emaciation, which may be mistaken for colitis, or malignant disease of the colon. The diagnosis, however, should present no

difficulty if a careful examination be made. These cases are more common than is usually supposed, and occur both in the hyperacid and in the anacid cases. Between the two a diagnosis is possible only by gastric analysis.

Biliousness and its allied symptom-complexes are rarely, if ever, due to a primary functional disturbance of the liver, but are almost regularly due to an intestinal toxemia, traceable to some derangement of gastric chemistry, whereby improperly prepared chyme enters the intestine.

Anemia and constipation are the chief and only symptoms in a great many cases of even well marked gastritis, and their continuance without apparent cause should justify an analysis of the gastric contents.

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### Prognosis of Pleurisy with Serous Effusion.

R. C. Cabot (*American Medicine*, June 7, 1902) says that from his observations he has learned that eighty per cent of the patients having uncomplicated serous pleurisy, who have been followed for five years or more, are in good health. (More than half of these have been followed for ten years or more.)

Ninety per cent are apparently in full health at the end of from two to five years—that is, the pleurisy has no immediate connection with any other affection.

Fifteen per cent of the patients sooner or later developed demonstrable tuberculosis of lung or bone. But in only three per cent has this tuberculosis manifested itself within two years of the date of pleural effusion.

The type of tuberculosis which occurred in these cases was, as a rule, mild and of slow course. Death did not occur until five years or more after the pleurisy in one-half of the twenty-three patients who developed obvious tuberculosis. Six of the twenty-three are still alive, in spite of the tuberculosis, after periods of ten, nine, six, four, two, and one years.

Nevertheless, a very rapid form of tuberculosis may develop many years after the pleurisy—nine years and sixteen years respectively in two cases of this series—so that the patient is never safe from the possibility of death from tuberculosis merely because his pleurisy lies ten or fifteen years behind him.

A study of the clinical records of the whole group of patients under consideration shows that among those who have remained in perfect health for five years or more only twenty-five per cent had any family history or past history of tuberculosis, while of those who had become tuberculous two-thirds had tuberculosis

in their immediate family, or in their own past history. A careful history, therefore, is of great importance in the prognosis of pleural effusion.

On the other hand, the physical signs during the course and convalescence of the pleurisy were not markedly different in the group of cases in which tuberculosis later developed from the signs of those who have remained well.

Recurrence of the pleurisy itself in patients who have recovered from the original attack occurred in only five cases, or three per cent of this series.

Reaccumulation of the fluid immediately after tapping is rare, occurring in only two cases, or 1.3 per cent.

Among the fourteen patients who, after recovering from the pleurisy, died of some other disease, not one developed any disease which could reasonably be considered a result of the pleurisy; the causes of death were alcoholism, hepatic cancer, dysentery, pulmonary embolism, mitral stenosis, aortic regurgitation, chronic nephritis (3), cerebral hemorrhage, measles, pneumonia (3).

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### Hospital Treatment of Tuberculosis.

The curability of pulmonary consumption is an established fact. However, to obtain a cure the disease must be recognized early and the treatment must be energetic. While it is further granted that a sanatorium is the best place for a consumptive, our social shortcomings necessitate the treatment of many tuberculous patients at home or in general hospitals. Dr. Hugo Winternitz (*Deut. Aerzte-Zeit.*, 1902, No. 1) discusses the management of the consumptive in a general hospital. Hygienic and dietetic measures are of prime importance. Abundance of pure air, good and plentiful food, especially milk in large quantities, mild hydrotherapy, and breathing exercises are all of the greatest value and pave the way for medical treatment.

We possess no specific against tuberculosis, but creosote is almost universally esteemed as next best to a specific. However, its toxic and unpleasant properties have led to a search for substitutes, and we have seen creosote carbonate, guaiacol, and guaiacol carbonate upheld as ideal successors to creosote in the treatment of phthisis. More promising than all these the author considers thiocol, on account of its being odorless and easily soluble in water. Thiocol is a perfectly stable compound of guaiacol, and appears as a white, crystalline powder, slightly bitter in taste, and absolutely odorless. The author has used the

drug in the form of a syrup, prepared according to the following formula:

| | | |
|---|---|---|
| Thiocol | 2½ | drachms. |
| Water | 10 | drachms. |
| Fluid extract orange | 1 | drachm. |
| Simple syrup | 3 | ounces. |

Three or four teaspoonfuls daily (equal to about 16 to 24 grains of thiocol).

Or the drug may be given in powders or tablets, eight grains three to four times daily.

Sixteen cases of tuberculosis were thus treated for several months with gratifying results. No unpleasant effects were noticed. The appetite improved, bodily weight increased, night sweats subsided, and cough and expectoration were favorably influenced.

In advanced cases the cough irritation often requires sedatives, and the author warns against the indiscriminate use of morphine. Codeine and dionin generally suffice to allay the tormenting symptoms. Dionin is given in doses of one-half grain, preferably in solution.

The psychic element of treatment should also receive our attention, and the patient ought to be encouraged in his hopeful attitude.

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## Meningeal Forms of Typhoid Fever.

E. Dabout (*Thèse de Paris,* 1901) from his investigations of the meningeal forms of typhoid fever comes to the following conclusions: (1) The symptoms of meningeal involvement in typhoid fever are marked cephalalgia and irritability, sometimes the occurrence of epistaxic, muscular, and cutaneous hyperkinesis, and hyperesthesia, and the presence of Kernig's sign. (2) Among the nervous phenomena usually present in typhoid fever the symptoms referable to "irritation of the meninges" may occur in three forms, namely, as mere epiphenomena in the course of typhoid fever, as marked symptoms at the onset of the disease, or as predominant and exclusive symptoms due to local meningeal inflammation from the action of Eberth's bacillus. (3) In six cases of the last class, collected from medical literature, bacteriological examination of the meninges and of the pus thereon (as well as cultures therefrom) proved the presence of Eberth's typhoid bacillus in every case. (4) Kernig's sign was an especially valuable guide to the presence or absence of meningeal irritation, and examination of the blood serum helped in the

diagnosis; lumbar puncture and study of the cerebrospinal fluid withdrawn was confirmatory—when the meninges were affected the prognosis was grave, owing to the presence of a suppurative (seropurulent) meningitis. (5) There was a special connection between certain epidemics and the cerebral forms of meningitis in typhoid fever, and the prognosis was grave in proportion. (6) The treatment consisted of warm baths (sponging) at 37° to 38° C., and lumbar puncture to withdraw the cerebrospinal fluid and relieve the increased intracranial pressure.

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## THERAPEUTICS.

### The Treatment of the Summer Diarrhea of Infancy.

At a recent meeting of the New York Academy of Medicine, C. G. Kerley (*Medical Record,* May 31, 1902) read a paper on this subject. It should be remembered, he said, that primarily the intestinal contents are involved, and not the intestine itself. Realizing that the physician has a poisoned child to treat, the indications are clear. Every case, whether mild or severe, should be given castor oil or calomel, the former being preferred. Regardless of the source of the milk, it must be stopped at once, for the reason that it furnishes an exceedingly favorable culture medium for bacteria. It does not do the slightest good to dilute the milk, or to Pasteurize or sterilize; indeed, heating the milk distinctly aggravates the condition. A substitute diet is, of course, to be selected, and a carbohydrate diet has given him the best results. Children soon tire of this, and hence it is well to change the taste by adding small quantities of beef juice or chicken broth, well salted. These must be used sparingly, however, as they often give rise to infantile diarrhea. The free use of brandy or whiskey, as practiced by many, seems to the author to be a mistake, as it tends to destroy the feeble powers of digestion and irritate the kidneys. He has used egg-albumen water freely, but has abandoned it because he has found that many sick infants do not well digest it.

The diet of fever patients should contain a liberal supply of carbohydrate, and in summer diarrhea there is usually a good deal of fever. The substitute carbohydrate diet should be given at intervals of two hours, and in such quantity as milk had been given previously. Boiled water should be given freely at any time. The child should be kept in a large, airy room, and the milk diet should not be resumed until the fever has gone and the

stools have become normal, and the return to milk diet should be effected very gradually. One drug seems to the author to be of special value in these cases, and that is the subnitrate of bismuth, given in large doses, ten to twenty grains every hour or two. There is no use in giving this remedy except in sufficient quantity to cause black stools. Opium is also useful, but must be employed with great caution. It should never be given unless there are more than four or five stools a day, for this number is necessary for proper drainage. He prefers Dover's powder, one-quarter to one-half a grain every three or four hours for a child of one year old. For heart stimulation, strychnine and strophanthus are preferable. Irrigation of the colon is of much service where the stools contain much mucus and blood, but for other cases irrigation accomplishes little but an increase of the irritation of the rectum. Ordinarily, not more than two irrigations should be given in the twenty-four hours, and normal salt solution should be used. For the purpose of irrigation he made use of an ordinary rectal tube, No. 17 of the American scale. The tube should be introduced nine inches, and the reservoir should not be more than three feet above the child's body. Ordinarily, the fluid should be lukewarm, but when the temperature of the body is very high the use of water at 70° F. would help to reduce the body temperature. In cases on the verge of collapse, the use of very hot saline solution acts as a valuable stimulant.

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### Causes and Treatment of Diabetes Mellitus.

Croftan (*American Journal of the Medical Sciences*, April, 1902) has proven that blood and lymph drawn from the body under antiseptic precautions will gradually destroy their own sugar, the latter destroying a greater quantity in a given time than the former; and further, by examining the several constituents of the blood seriatim he concludes that this sugar-destroying agent is not contained in the red corpuscles or serum, but in the white corpuscles or platelets, and that being soluble in physiological salt solution it is independent of the life of the cell and is a chemical process due to the action of a "ferment." It was found that scarcely any decrease in the sugar of the blood experimented upon occurred during the first half-hour after removal from the body, but that during the next hour the sugar destruction progressed rapidly, after which time it declined, and stained blood specimens made concurrently showed that the glycolytic action began when degenerative changes in the leucocytes com-

menced, and the action increased *pari passu* with increasing degeneration, thus proving that degeneration of the white cells or platelets must occur before the ferment manifests itself. During the first half-hour it was found that the sugar in the blood actually increased instead of diminishing, and this fact must be remembered when interpreting the small glycolytic power of the blood during the first half-hour after removal from the body, as during this period fresh sugar is being formed from glycogen, and the white corpuscles are slowly beginning to degenerate, thus liberating the ferment.

Experiments to determine the rôle of the pancreas proved that removal of the organ decreased the glycolytic action of the blood, and therefore it is inferred that the ferment has its origin in the pancreas, a supposition that receives further support from the discovery that trypsin in the presence of hemoglobin possesses glycolytic powers, and the ferment liberated by the disintegration of leucocytes (or platelets) possesses so exactly the same properties as trypsin as to be, in the present state of knowledge, indistinguishable. Since reduction of this glycolytic action will lead to hyperglycemia and glycosuria, the indication in treatment is to increase glycolysis by supplying the ferment. Either the infusion of chyle or blood, or the injection of leucocyte extracts, trypsin, or of vegetable glycolytic ferments, should effect this result, and experiments upon animals, from whom the pancreas has been removed resulted in a decrease of sugar in the urine when lymph from a healthy animal was infused, and a similar result was noted with transfusion of blood. Vegetable ferment injection has not yet been attempted, and the danger attending injections of trypsin or leucoyte extract, owing to the correct dosage not yet being known, render them at present inapplicable to human subjects, but the infusion of lymph and transfusion of blood should be of value in treatment.

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### Radiotherapy for Cancer and Other Diseases.

W. J. Morton (*Medical Record*, May 24, 1902) says that radiotherapy broadens our conception of the possibilities of the therapeutics of modern medical science. The *x*-ray has a general application for the relief of pain.

As to technique, a standardization as to apparatus and its capacity and as to duration and frequency of treatments and distance of the tube is recommended to operators.

The *x*-ray has a curative effect in internal cancer and other internal diseases.

For superficial diseases a medium soft tube may be used, for internal cases a hard tube. The hard tube is applicable, however, in all cases.

*X*-radiation is recommended prior to any operation, to clear the tissue of cancer particles and foci, and to circumscribe the disease.

*X*-radiation is recommended after operation to preclude a recurrence.

*X*-radiation may be recommended in place of operation, and may be preferable to one for the reason that operation secures but a comparatively moderate percentage of permanent recoveries, and because up to date the *x*-ray procedure shows a continued improvement in cases, and a percentage of cures which will, undoubtedly, compare favorably with surgical operations.

There is danger to the patient, or uncertainty as to what might be accomplished, when the *x*-ray is employed by immature operators.

In *x*-radiation we possess more nearly a solution of the problem of curing than by any other method of treatment.

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### Adrenalin in Intestinal Hemorrhage of Typhoid Fever.

Warren Coleman (*Medical News,* March 29, 1902) states that adrenalin exerts a similar hemostatic action on the mucous membrane of the alimentary canal to what it exerts on other vascular membranes, but though used for gastric ulcer it has so far not been used in the intestinal hemorrhage of typhoid fever. He cites five cases of enteric fever treated by him during the past two years with adrenalin. Four of the five patients recovered, though in two of them the hemorrhage was very severe. The fifth patient died of toxemia and exhaustion several days later, and not of hemorrhage. Two of the five cases are as follows:

*Case 1.*—Man, aged twenty-seven years, had severe intestinal hemorrhage on September 23 from enteric fever, the patient losing three to four pints of blood. Fifteen grains of adrenalin was given immediately, and the dose was repeated every hour during the night. The temperature was 103° F., and an ice-coil was applied on the abdomen. The hemorrhage ceased, no blood being passed next day. Adrenalin in doses of 15 grains three times a day was now given to prevent recurrence, and no more blood was passed.

*Case 2.*—Woman, aged forty-three years, had enteric fever with severe intestinal hemorrhage on September 22. Adrenalin

was given immediately (15 grains every two hours daily and every four hours nightly). The stools next day were only slightly blood-tinged. The drug was now given in the same doses thrice daily. On the third day the stools ceased to exhibit even slight streaks or tints of blood.

The general rule should be, says the author, to keep five-grain powders of adrenalin in the sick-room, and to give instructions to the nurse to administer one powder at the first sign of blood in the stools, repeating the dose hourly till medical assistance arrives. "In a profound typhoid state the powder may be given suspended in milk or water, or, when nausea follows administration by the mouth, then 10 grains per rectum may be injected, or Schaffer's suggestion of intravenous injection of two or three grains may be adopted."

The author also cites a case of purpura hæmorrhagica, with severe bleeding from the nose, gums, bowels, and extensive subcutaneous extravasations, benefited by adrenalin.

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## Stypticin.

The need of a local hemostatic that would combine promptness and certainty of action with innocuousness has long been recognized. Neither ferric chloride, nor absolute alcohol, nor suprarenal extract are altogether satisfactory considered in this respect.

The almost ideal hemostatic seems to have been discovered in stypticin. This remedy is very popular with gynecologists as an internal styptic in uterine bleeding; it has been successfully used in hemorrhages from the bladder after the introduction of sounds, and dentists speak favorably of its efficiency in the hemorrhage after tooth-extraction, etc.

Dr. R. Kaufmann (*Journal of Cutaneous and Genito-urinary Diseases,* No. 223) confirms the previous reports on stypticin. He uses it chiefly as a local hemostatic in manipulations about the urethra, in circumcision, etc. A piece of cotton may be soaked in the solution of stypticin and applied. No caustic effects need be feared.

The hemorrhage following the extraction of a tooth, while usually ceasing of its own accord, occasionally persists and gives rise to difficulties in checking it. If the patient should chance to be a bleeder, the trouble will be quite serious, and the usual styptics will be found unavailing. Stypticin is, however, highly recommended in such emergencies as a prompt styptic.

### Ichthyol in Typhoid Fever.

Dr. Soet (*Aerztliche Praxis,* xiv, No. 1) tried ichthyol in nine cases of typhoid fever. In one case the drug was given in the last stage of the disease, for the weakness and anemia, and with good effect. The patient took daily from three to eight pills, each containing 2½ or 1½ grains of ichthyol.

The author administers the remedy in pills or in solution, with plain or peppermint water; five to twenty drops of the solution are given thrice daily before meals in one-third glass of water. The patients soon learn to drink without tasting. To cover the unpleasant flavor a piece of chocolate may be taken immediately after the dose. This method corrects the taste of all unpleasant drugs. The headache promptly disappears and the appetite improves noticeably after the first few doses. Of all symptoms, says the author, only the fever shows that the disease is still there. Since the drug is absolutely harmless, the author recommends further trial of it in typhoid fever.

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## RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

### The Principles of Treatment of Tubercular Laryngitis.

St. Clair Thompson, of London, in an able article under the above title arrives at the following conclusions, based upon his own personal experiences, plus the opinion of other observers:

1. Pathology and clinical experience show that in the majority of cases the focus of infection is near or in the cricoarytenoid joint.

2. Many cases only present themselves at a stage when the possibility of effecting a cure by local measures is quite untenable.

3. The principle of *primum non nocere* should be constantly kept before us, as many measures which have been tried in this affection have only distressed the patient and hastened the disease.

4. In the light of present knowledge and therapeutic resources, the most rational principle is to try and make an early diagnosis of the disease while in an incipient stage; any persistent or suspicious laryngeal catarrh should be treated seriously in even a presumptive diagnosis.

5. Once diagnosed, the patient should be treated on the principles laid down in the modern method of sanatorium treatment.

6. Symptomatic treatment should be directed to an irritative, catarrhal, or obstructive condition of the air-passages.

7. In addition, silence should be enjoined, the disuse of the voice being proportionate to the degree in which the focus of infiltration approaches and interferes with the arytenoid joint.

8. In cases where the situation or extent of disease does not warrant an expectation of complete arrest of the process, treatment should be symptomatic, and in many such cases the sanatorium treatment is uncalled for.—*Laryngoscope*, May, 1902.

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### Removal of a Tooth-plate From the Esophagus by Aid of the X-rays.

Dr. Nathan Raw, of Liverpool, reports this case (*Laryngoscope*, May, 1902): The patient was a well developed man, who in an attempt to commit suicide swallowed his plate of false teeth. By means of a bougie the foreign body could be felt some twelve inches from the lips. Fluid nourishment could not be swallowed, showing that the obstruction was complete.

By means of the *x*-rays the plate could be seen below the level of the upper end of the sternum, and hence removal by means of any external operation would be most difficult as well as dangerous.

With the aid of a powerful *x*-ray tube and a current of 40 volts and 12 amperes, with the screen in front of the patient, it was possible to guide the forceps to the plate, seize one of its projections, and forcibly remove it from the esophagus. Considerable bleeding immediately followed, and later on some inflammation on both sides of the neck with expectoration of a purulent discharge. The latter symptoms soon subsided.

The author argues that the position of the tooth-plate made forcible removal the only means of extraction, although it is generally agreed that no force should be used in removing foreign bodies from the esophagus.

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## DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Lecturer on Dermatology, Detroit College of Medicine.

### Post-vaccinal Eruptions.

In the *British Journal of Dermatology* for May, 1902, W. T. Freeman, F.R.C.S., reports among others the following cases of post-vaccinal eruptions:

The first patient, a weakly male, aged fifty-four, had been vac-

cinated about three weeks. The vaccinal reaction had been quite moderate, and at the end of the third week the scabbing process was quite complete. It was then noticed that the trunk (chest, back, and abdomen) was red, and a few sudamina were also noticed. Two days later he was found to be smothered—the whole trunk—with a bullous eruption; with a temperature of 102°; and quite seven-eighths of his body, excluding the limbs, was covered with bullæ. The individual lesions were about the size of a threepenny piece. The bullæ which were not collapsed were prominent, and were not like the flatter lesions of pemphigus foliaceus. Most of them contained a clear fluid, but some were slightly hemorrhagic. Those that had discharged their contents appeared to be drying up. An interesting point was the presence of two small umbilicated vesicles close to the recent vaccination scars. They looked like rather small but typical vaccinia vesicles. There were no other lesions upon the limbs. The lesions had little or no erythematous base or halo. The man complained of joint pains, and there were signs of joint swelling. He gave a rheumatic history.

All the lesions appeared simultaneously, and there were no successive crops of bullæ. Two days later his general condition had improved, and only a few blebs near the groins and shoulders remained that were not collapsed. These were still hemispherical, tense, and apparently planted on almost healthy skin.

All the bullæ eventually dried up, the temperature gradually declined, the joint swellings slowly disappeared, and in a few weeks the man was convalescent. The collapse had been very severe.

Two other cases are interesting in that they showed marked family idiosyncrasy. One, a little girl, about four years of age, was vaccinated three or four weeks before her baby brother, and within a week from the date of the operation was covered with what looked like a typical measles rash. The limbs were sparingly attacked, and the face was left alone altogether. The child was sufficiently ill to cause a certain amount of anxiety. In a few days nothing but a little pigmentation was left. The baby was vaccinated some three or four weeks after his sister, and the same kind of measly rash quickly followed upon the maturation of the vesicles. In both instances the eruption started from the vaccination area, but very quickly became generalized. Measles was without difficulty excluded from the diagnosis.

## GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

### Ergotine as a Prophylactic and Specific in Childbed Fever.

Solt (*Medical Press,* May 21, 1902) says that he always uses ergotine in his practice in preference to crude ergot, as the latter is so uncertain. The chief property of ergotine is that of exciting contractions of the uterus. Under the influence of the ergotine the flabby, softened, diseased uterus contracts. Its walls become thicker, firmer, and drier. The lymph spaces become smaller. The relaxed blood-vessels also contract. The edematous soaking of the tissues that precedes the entrance of disease germs can no longer take place. Protection is therefore afforded against the entrance and development of such germs. By small doses of ergotine powerful spasmodic contractions of the uterus are never set up, but normal contractions. They begin in the extreme periphery of the uterus, even in the adnexa, and pass to the cavity of the uterus. The contraction hastens the exudation of the lochia and also of necrosed tissues. After the contraction the uterus does not dilate again so much as before. It cannot take up so much fluid as before, since the superfluous moisture has been expelled by the contraction. Given prophylactically ergotine protects the uterus against infection from without, and from wounds of the vagina, perineum, and rectum. Naturally the temperature falls also when absorption is prevented. The author also gives ergotine in all cases associated with inflammation and suppuration. In infected suppurating wounds, abscesses, abscesses with pyemic or septicemic symptoms, he gives ergotine in place of alcohol. The patients feel better after two or three days, and the appetite returns.

Ergotine has tonic and strengthening properties. The organism disposes of the poisonous materials more readily under its influence, and later on the fewer disease germs are more easily disposed of by the phagocytes.

The author would therefore give ergotine before all operations, and in all cases of fever with exhaustion. During the past seven years he has treated about thirty cases of puerperal fever with ergotine, giving it all through the illness. All the cases recovered with a rapidity he had never before observed. In all cases when the labor has been normal he gives ergot two or three times a

day in powder. After each operation, or when the patient is suspected of intoxication, he orders the following as a prophylactic:

℞ Ergotini ..... 50 parts.
Aquæ destillatæ ..... 50 parts.
Tinct. amaræ ..... 15 parts.

M. D. S. Ten to twenty drops three times a day. Or,

℞ Ergotini ..... 50 parts.
Aq. menth. pip..... 20 parts.
M.

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## Puerperal Hemorrhage.

G. Seymour (*Medical News,* May 24, 1902) says that the following are the principal causes of antepartum hemorrhages: (1) Atony of muscles, blood-vessels, and nerves of the whole system, especially of the uterus and its adnexa; (2) accidents giving rise to such physical disturbances as may come from excessive cohabitation, intense mental emotions and violent passions, injuries from falls, blows on the abdomen, coughing, vomiting, lifting heavy weights, etc.; (3) criminal or accidental abortions, with retention of a whole or a part of the placenta; (4) abnormal insertions of the placenta with the varied forms of placenta previa, from the simple adhesions of the placental border down to the inner cervical ring to the implantation of the placenta centrally over the os internum, so that after dilatation of the os the placenta only can be felt; (5) neoplasms of the uterine body, especially fibroids; (6) ectopic pregnancies and hematomata.

# THE MEDICAL AGE

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## ORIGINAL CONTRIBUTIONS.

### SOME REMARKS ON THE TREATMENT OF MASTOID DISEASES.*

BY ROBERT WINTHROP GILLMAN, M.D.,

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My chief object in writing this paper is to advance a plea for more conservatism on the part of aural surgeons in dealing with cases of inflammation of the mastoid process. At present it seems to be, with many surgeons, the fashion to operate on nearly all the diseased mastoids that come before them. Those who a few years ago would preach the efficacy of extensive incisions of the drumhead, establishing free drainage together with other correspondent treatment in cases of mastoiditis associated with purulent inflammation of the middle ear, claiming that with this treatment but few cases would demand the major operations, now calmly take chisel and mallet in hand and proceed to obliterate the whole mastoid process, alleging that, if properly performed, the operation itself is without absolute danger to the patient, and if done early grave complications can be averted.

Are we always sure that even the simple operation of opening the mastoid cells is without danger to our patient?

By way of answer to this question I might state that a distinguished Eastern aurist recently remarked to me that he had, time and time again, witnessed some of the worst cases of sinus-thrombosis, brain-abscess, deep abscess in the neck, etc., follow the simple operation; and he believed that in a number of these cases the operation itself was the cause of the complications.

In the fall of 1898 I visited several prominent New York aural surgeons for the purpose of seeing them at work on mastoid

*Read at the thirty-seventh annual meeting of the Michigan State Medical Society, at Port Huron, Mich., June 26 and 27, 1902.

surgery, and to ascertain just the class of cases they selected for operation. I soon discovered one reason, at least, why I was not more frequently performing operations on the mastoid as compared with the number of cases reported by some surgeons, namely, that many diseased mastoids are opened unnecessarily early, and that not enough delay as regards operative interference is countenanced by the enthusiastic aural surgeon of to-day.

I fully realize that too great temporizing favors brain-abscess, sinus-thrombosis, meningitis, and septicemia; that there are undoubtedly many cases which require early operation; that even the life of the patient may be threatened by receiving anything less than prompt treatment, with free opening of the mastoid process, and possibly more than this may be demanded. But have we not all seen cases of mastoiditis presenting the chief classical indications for opening the mastoid process recover promptly on a free incision of the drumhead or of the bulging auditory canal, with other appropriate treatment? In this connection the report of the following case may serve as an illustration:

On the afternoon of June 4, 1902, Dr. M. W. O'Connor, of West Detroit, referred to me John Kelly, aged six years, for relief of a marked right mastoiditis of a few days' standing, following an attack of acute otitis media purulenta. On examination, I found the area over the whole mastoid swollen, red, and very sensitive to the slightest pressure, especially over the antrum. The ear was standing out almost at right angles to the head. The posterior and superior walls of the external auditory canal were bulging and red. The canal itself contained a slight amount of thick, stringy, fetid pus, though there was no discharge from the external meatus. On removing this secretion the drumhead was seen to be red, slightly bulging, and contained a pin-point-sized perforation in the center of its upper half. Temperature 101½°, pulse 110. Patient presented a pale, sallow appearance. I at once made an incision through the membrana tympani along its posterior and inferior attachments, and cutting into the inner wall of the tympanum. This was followed by free hemorrhage, but no pus. Free irrigation of hot carbolized water from a fountain syringe was ordered, and to be repeated every two hours while the patient was awake.

The following morning a profuse discharge of foul-smelling pus flowed from the large opening in the drumhead, and the mastoid symptoms were much lessened in severity. His temperature had fallen to 99½°. In four days the patient was practically free of his mastoiditis. The discharge continued from the external

meatus for ten days, when it yielded to treatment, and at the end of two weeks the little fellow had entirely recovered his health.

I believe there are many aural surgeons who would have found in this case one which required, in their opinion, prompt opening of the mastoid process without attempting its cure through any other channel.

I could report many like cases that have occurred in my practice during the past ten years, but the above one, together with the brief history of the following case, will I think make plain my position:

In March, 1901, Mrs. S——, aged thirty-eight, had been ailing for three weeks from "earache" and discharge from the left ear, when her family physician, Dr. F. W. Mann, requested me to take charge of her case. I found the region over the whole mastoid extremely sensitive to pressure, but not discolored or swollen. The posterior and superior walls of the auditory canal were tumefied and red, and the drumhead, which contained a good-sized perforation in its lower half, was bulging. There was a very free discharge of thick odorless pus from the meatus. The patient's temperature was 102 3/5°. Her color was decidedly sallow, and she presented the appearance of pus absorption, which we so often see in cases of mastoiditis.

I made a large V-shaped incision along the inferior and posterior attachment of the membrana tympani to insure freer drainage, and ordered douching of the canal with three pints of hot carbolized water every hour. The condition of the patient was not improved the next day, and she complained of more pain back of and above the mastoid. A deep incision into the bulging tissue and bone of the posterior wall of the auditory canal was now made, and the irrigation ordered to be continued every hour, as before. There was a decided change for the better in the condition of the patient the next day, the temperature falling to 100 3/5° and the pain almost disappearing from the mastoid. The region over the antrum was still very sensitive to pressure; but the case gradually improved, and all signs of the mastoiditis disappeared in about eight days.

The late Dr. Edwin W. Pyle, in a paper read last fall before the New York Academy of Medicine, related the history of a case of acute mastoiditis following scarlet fever, which presented pronounced indications for operation, but the patient refused to undergo any operation, and under the influence of hot douching made an excellent recovery. He gave statistics from twenty-four physicians in general practice throughout the country, which

were verified by his personal experience of twenty-five years in general practice and four years in special work, to show how seldom mastoiditis needs operation.

Though in these remarks I may seem to have advocated conservatism unduly in dealing with mastoiditis, it must not be taken for granted that I do not appreciate thoroughly the necessity of promptness where judgment and experience indicate the required condition for immediate operation. If called upon for a statement of these conditions, I would give in outline the following suggestions: Immediate opening of the mastoid process is indicated (1) when an acute inflammation of the bone associated with purulent inflammation of the middle ear does not yield promptly to incision of the drumhead or bulging auditory canal and other palliative treatment; (2) when severe pain in the mastoid with or without pain in the same side of head continues, resisting all other treatment; (3) when the symptoms point to sinus involvement, meningitis, brain-abscess, or septicemia. But, besides, there is of course the personal element involved in the judgment and experience of the operator, which cannot well be weighed or measured, and each case has its peculiarities which must be considered separately.

In illustration I give, in closing, a brief abstract of an interesting and instructive case, as it shows that the interior of the whole mastoid process can sometimes become broken down in barely two weeks, when attacked by acute inflammation, thus developing a condition which would terminate fatally if not interfered with promptly: On May 14, 1902, I first saw Mrs. B——, of Brighton, Michigan, who gave the following statement: After suffering from a severe head-cold two weeks previously, she was seized with a severe earache, which lasted a day, when the ear began to discharge, on which the pain moderated; but she continued to suffer some distress in and back of the ear up to the date mentioned. Her family physician had treated her during the first week of her ear trouble, but then discovering the tissues over the mastoid swollen, red, and painful, he advised her at once to consult a specialist, and she came to Detroit and placed herself under my care, in St. Mary's Hospital. I found her to be suffering from acute otitis media purulenta with pronounced mastoid involvement. Her temperature was 100°, pulse 92. The region over and posterior to the mastoid process was swollen, and very sensitive to pressure. The posterior and superior walls of the external auditory canal as well as the drumhead were bulging. A bacteriological examination of the pus was requested, but for some reason this was not made.

An incision of the membrana tympani was followed by free hemorrhage and pus. Douching of the ear with hot carbolized solution was practiced every two hours. The next day, May 15, she appeared to be in much better condition as regards the mastoiditis; but on May 16 a large swelling in the neck below the tip of the mastoid (Bezold's symptom) determined me to at once open the mastoid cells. Her temperature at this time was only 99½°. Under chloroform anesthesia, and with the assistance of the house staff of the hospital, I performed the Schwartze operation. No fistulous opening in the bone could be discovered. On removing a thick plate of bone over the antrum, I was surprised to find the whole mastoid process reduced to one pus cavity filled with broken-down cellular tissue and some granulations. A probe could be directed readily into the antrum. The external bone-opening was enlarged down to the tip of the mastoid, and carefully curetted of its broken-down tissue. The lateral sinus was exposed, and very free venous bleeding taking place, the cavity was firmly packed with bichloride gauze. The patient rallied nicely from the operation, which consumed twenty-five minutes. Four hours after she developed a fainting spell, and being pulseless at the wrist a pint of hot saline solution with half an ounce of whiskey was injected into the tissues of the breast. She improved rapidly, and not a bad symptom developing, left the hospital in three weeks.

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## SUPERHEATED DRY AIR IN THE TREATMENT OF ACUTE LOCALIZED INFECTIVE AND SEPTIC DISEASES, INCLUDING PNEUMONIA, PLEURITIS, APPENDICITIS, OSTEOMYELITIS; WITH REPORT OF CASES.*

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For a knowledge of thermotherapeia medical science is indebted to Mr. Urquhart. Thermotherapeia is the application of atmospheric air at a high temperature to the surface of the body for the relief of pain and disease. The capacity of the human body for withstanding dry air at a very high temperature without burning is a matter of common observation. We see it in the daily occupations of copper smelters, steel puddlers, stokers in steamships, etc. In thoroughly ventilated rooms a temperature of 130° F., and upwards to 200° F., is not only tolerable, but

*Read before the Chicago Medical Society, Nov. 20, 1901.

perfectly tranquillizing and grateful. The essence of the quality of a high temperature is its dryness. While the human body can support a temperature of 350° to 400° F. in dry air, hot vapor is scalding at 120° F., and water boils at 212° F. It is not quite certain who was the first to use hot dry air in the treatment of disease, yet the Tallermann machine was introduced in London as early as May, 1893, and since then has been in use in London and Paris hospitals. Landouzy, of Paris, has authorized the statement that he found the hot dry-air treatment, in connection with drugs, produced better results in acute gout, chronic rheumatism, and sciatica than the old remedies alone. In a paper before the British Medical Association, in 1897, Dr. James Stewart, of Montreal, reported considerable experience in the use of hot dry air in the treatment of rheumatoid arthritis, and found it safe in the cases of weak heart and valvular and renal diseases. In this country Dr. George L. Kessler, of Brooklyn, has practiced this treatment extensively. Although I have not had access to any of his writings on the subject, so far as I am aware all of the diseases that have been treated by others were chronic, with the exception of sprains, and the cases of acute gout and sciatica mentioned by Landouzy. Since the summer of 1898 I have treated acute diseases as well as chronic. Acute osteomyelitis was my first acute septic disease treated by this method, followed by the treatment of the other diseases, namely, pleuritis, both plastic and with effusion; pneumonia, acute and delayed resolution; synovitis, acute and chronic; acute appendicitis; acute catarrh of the bile-ducts.

Dr. S. Baruch, in his recent work on hydrotherapy, gives a *résumé* of the functions of the skin, and effects of hot and vapor baths.

In connection with thermotherapeia, the functions of the skin may be briefly considered: first, as an organ of sensation; secondly, as an organ of heat regulation; thirdly, as an organ of secretion.

1. Roehrig has well epitomized the importance of the skin as an organ of sense by the statement that next to sight the sense of touch is the most important of all the senses. The cutaneous nerve endings stand guard, as it were, over most of the functions of the human body. We have in the nerve apparatus of the skin facilities for perceiving pain, temperature, and space, the aggregate of which endows it with all the intricate functions of an organ of sensation. The great importance of the skin as an organ of sensation is illustrated by the pathological conditions which accompany loss of reflex sensibility. In old hemi-

plegias the skin is shriveled and dried, showing lack of proper nutrition.

2. The skin as a heat regulator. The temperature of the living body is not governed by physical laws alone; it is supplied with a mechanism whose function is to protect the body against serious heat loss by calling forth certain conditions before dangerous or low temperatures are reached. Mr. Foster states that many considerations have long led physiologists to suspect the existence of a nervous mechanism by which afferent impulses arising in the skin or elsewhere might, through the central nervous system, originate efferent impulses, whose effect would be to increase or diminish the amount of heat generated for the time being in the body; when, on the other hand, the body is exposed to high temperatures, the sensory nerve endings, which form the temperature sense, convey the irritation to the vasodilator center in the medulla oblongata. An increase of the large vascular area in the skin and in the lungs is produced in response to this irritation, resulting in increased exhalation of moisture; at the same time the large vascular area within the abdomen, which is under control of the splanchnic nerve, becomes narrowed. Thus the circulation of superheated blood is not only limited, but evaporation, heat radiation, and perspiration, together with the constricted condition of the interior vascular areas, combine to cool the inner part of the body, and thus to counteract the deleterious effects of external heat.

Adamkiewicz has demonstrated that perspiration may be induced by influences acting upon the innervation through the sensory nerve filaments, and that heat is a most powerful reflex irritant for arousing the perspiration, whether it be applied externally or be generated within the body.

The blood cooled by the perspiration thus induced flows to the interior of the body, and aids in preventing an excessive rise in temperature.

Frey has given us an admirable *résumé* of the rationale and effects of the hot-air and vapor baths. We have three factors: the thermic irritation; the heat supply and loss; the protective action of the organism against these. The temperature equilibrium of the human body is due to two constantly active factors—heat production and heat diffusion. These are under control of the nerve centers, which are connected, on the one hand, with the cerebrospinal and sympathetic fibers with the tactile nerves of the skin, and on the other with the abundant capillary network of the skin and muscles, both of which respond to the slightest temperature impressions, by narrowing or by dilating

the cutaneous or muscular capillaries. Thus are the production and diffusion of heat regulated. In five minutes usually the pulse-rate begins to increase; five minutes more causes a rise in temperature and increase of respiratory movements. The average normal patient may within half an hour be made to register an increase of 30 to 60 pulse-beats, and from one to three degrees of temperature, and in my own experience there was a rise of five degrees in one patient.

3. The skin as an organ of excretion: the importance of which has been known since the time of Galen. The secreting function of the skin is of great importance in the maintenance of a healthy condition. Through its extensive glandular structure an enormous discharge of water is produced from the cutaneous surface, $CO_2$ as well as urea. According to Schierlack (*Arch. für Anatomie und Physiologie*, 1893), $CO_2$ is eliminated in moderate quantities from the skin when the temperature ranges from 29° to 33° C.; a rise over 33° C. produces a sudden increase of $CO_2$, which may be doubled when 34° C. is reached. Watery secretion is not abundant under 33° C.; it increases simultaneously with the $CO_2$ excretion, both being produced by the activity of the gland cells. In various diseases of the lungs, heart, and kidneys, in which other physiological functions of these organs are diminished, the exhalation of $CO_2$ by cutaneous excretion is usually enhanced.

Schottin, who failed to find urea in the normal perspiration, observed it when the kidneys became inadequate, as in the uremia of cholera. In these cases he saw the whole body covered with a thin white crystalline layer of urea. Conrad Brunner (*Berliner Wochenschrift*, 1891, No. 21) has demonstrated in a man suffering from pyemia, in whose body the staphylococcus albus was present, that perspiration induced by wet packs contained the staphylococcus abundantly in six or eight examinations. To verify the observation Brunner experimented upon two pigs, which were made pyemic by injection of the staphylococcus aureus. In the sweat produced in these animals by pilocarpine, numerous cultures of the staphylococcus were found. Lizzone reports a case of septicemia arising in the left knee, to which the patient succumbed after amputation of the limb. A miliary eruption appeared in the skin, which was found to contain a pure culture of the staphylococcus pyogenes aureus.

Berriobie described a case of puerperal peritonitis, in which the secretion from the uterus contained streptococci; the latter were also found in miliary vesicles in the skin and in bed-sores.

Gaetner also found them in a case of sepsis in the blood and in the perspiration.

These well authenticated observations prove incontestably the importance of the skin as a secreting and excreting organ in health, and the vicarious utility of this function in disease. (Simon Baruch: Hydrotherapy.)

Perhaps no disease has given the physician more cause for anxiety in reference to his prognosis than acute lobar pneumonia, an infectious germ disease of the lungs, and a toxemia of varying degrees. I shall ask your indulgence if I venture to offer anything new in its treatment, or depart from the usual well defined lines laid down for the guidance of the physician in conducting his case through its course. In this disease the superheated dry-air method demonstrates its power over a germ disease, where the inflammatory conditions are localized. The pain, which is chiefly pleuritic, is immediately relieved, usually after thirty minutes' application.

The three cardinal pathological changes in acute lobar pneumonia are engorgement, red hepatization, and gray hepatization. In the first, engorgement, the capillaries are greatly distended, the alveolar epithelium swollen, and the air cells are occupied by a number of blood-corpuscles and epithelial cells. In the second stage, red hepatization, the air cells are completely distended with inflammatory products, excluding entirely the air; the small fibrinous plugs filling them are composed of coagulated fibrin, blood-corpuscles and leucocytes, and alveolar epithelium, the diplococci pneumoniæ of Fraenkel, staphylococci and streptococci. The third stage is an advanced one, gray hepatization. Here the air cells are filled with leucocytes, the fibrin and red blood-corpuscles have disappeared; this is the stage of resolution. The exudate is softened and the cell elements are broken up and rendered capable of absorption. It is right here at this stage that the physician is made so anxious. Will resolution take place? Will absorption be effected? The usual treatment to sustain the patient's vital powers until this is accomplished is his chief aim. Usually, when the physician is called to a case of pneumonia, the disease has already progressed from the first to the second stage; consolidation has taken place. Instead of waiting nature's methods, or giving the patient antipyretic drugs, we apply the hot-air treatment to the affected side. The immediate effect is to produce stimulation of the superficial cutaneous nerves; the capillaries and lymphatic vessels become distended, and the secretion and excretion of the enormous number of sweat glands, which are instantly put into

activity, cause large quantities of sweat, the evaporation of which takes place as soon as it has reached the surface. This process, or osmosis, extends to the deeper tissues, and thus is established a current loaded with microörganisms from the diseased lung to the surface of the skin. The deep vessels relieved, the contents of the distended air cells are soon absorbed, and air is allowed to reënter the once plugged air vesicles. With the destruction of the microörganisms the toxemia is arrested, which is at once reflected by the symptoms. The patient takes deeper respirations; the pain is relieved; the pulse increases in volume; the temperature, at first higher, soon begins to fall from one to two degrees F.; the dyspnea is relieved; and the anxious expression of the face disappears. In fact, a crisis is created. The disease can be aborted.

*Case 1.*—Captain P——, fireman, aged fifty-two years; received a severe wetting at a fire. The following night he was taken down with a chill, which lasted about twenty minutes. This was followed by a fever; a short, hacking, dry cough; and pain in the right side, which increased upon attempts at deep respiration. The following day the temperature was 103.5° F.; pulse 120; face flushed, anxious expression; short respiratory movements; dulness over right lung; expectoration scant, rusty, tenacious mucus; blowing breathing, and fine crepitant râles. The bowels were moved by small repeated doses of calomel. Hot-air application to the affected lung, forty-five minutes at 350° F.

The pulse increased to 140; temperature rose to 104° F. Pain diminished. In two hours the temperature fell one degree, 102.5°. The treatment applied the following day for forty-five minutes, at a temperature ranging from 300° to 400° F. Pulse at first increased from 115 to 125. Temperature, which had fallen to 101.5°, increased to 102°, during the treatment. Fell to 100.5° in four hours. The crepitant râles were less audible, and the respiratory murmur became less blowing in character.

On the third day of treatment with the hot air, the temperature fell to 99.5°, pulse 110. Patient had lost the anxious expression, and could take a deep respiration without pain. Examination of the lung: Dulness less marked, blowing breathing very faint. The expectoration contained mucus without blood, but not abundant.

Fourth day of the treatment: Patient felt cheerful. Temperature, 98.5°; pulse 100; respiration 24.

Fifth and sixth days: Hot-air treatments continued.

Eighth day: Dulness cleared up.

*Case 2.*—Mr. A. C——, molder, aged forty-two; strong, mus-

cular, well developed man. February 18 was taken down with a severe chill, pain in left side, short respiratory movements, anxious expression; rusty, tenacious sputum. Temperature 104°; pulse 120. In fact, a classic case of lobar pneumonia.

A calomel purge was first administered; then the superheated air applied to the affected side for forty-five minutes, at a temperature of 300° to 400° F. The pain was relieved. Temperature fell to 103° F. after two hours. The following day the application was applied at a temperature of 400° F. for forty minutes, causing an easier respiration, entirely free from pain. The temperature fell one degree in two hours; pulse 115, softer in character. The third day the temperature fell to 100 F.; dulness diminished, and air beginning to enter the upper part of the inflamed area. Twenty treatments given in ten days gave complete respiratory murmur over the lung. Temperature normal; pulse 100.

After an intermission of one week he complained of pain in right side, opposite to the inflamed lung, and distinct pleuritic friction sound gave evidence of pleurisy. The hot-air treatment was not immediately applied. The dulness increased, and suspicion of fluid arose, which was soon verified by the hypodermic needle. Hot-air treatments were applied, and at the expiration of two weeks the fluid, which had reached as high as the fifth intercostal space, was absorbed. Slight dulness at the base continued, but the respiratory murmur could be distinctly heard at the lowest point. This patient returned to his trade ten days afterward, and did not suffer any inconvenience.

*Case 3.*—Mrs. F——, aged fifty. Chronic bronchitis with a delayed resolution of pneumonic lung; anemic. Ten treatments caused the air to enter the lung, and in fifteen treatments the entire lobe became clear.

*Plastic Pleuritis.*—I have treated several cases of acute plastic pleurisy by this method, and in no case did it take more than five treatments to effect a perfect cure, with complete absorption of the plastic matter, and normal respiratory murmur restored. In two cases, with a temperature of 101° F., and so much pain that respiration was exceedingly difficult, two treatments gave complete relief.

*Pleuritis with Effusion.*—Mrs. McK——, aged thirty-four years; married; rather delicate looking, and of slight build. No tubercular history in family. Was taken ill after she returned from the Pan-American Exposition. She stated that she caught a cold, and that it settled in her left side and back. Examination revealed pleuritic friction sounds in midaxillary and fifth

intercostal space. This was followed in a week by symptoms of effusion, and aspiration with an exploratory needle showed a clear, straw-colored fluid. She had several attacks of dyspnea, or what she called "smothering spells."

Hot-air treatment was applied locally to the posterior surface of the left lung at a temperature of 350° to 400° F. for forty-five minutes. This gave relief, and treatments were continued twice daily. The fluid increased, until the area of dulness extended anteriorly to the fourth interspace. The heart's action was interfered with, and attacks of dyspnea occurred daily. Diuretics and strychnine, besides the hot-air treatment, were given, and slowly the dull area diminished, until on November 7, nearly four weeks from the date of the attack, the fluid was all absorbed. The respiratory murmur could be heard at the base of the lung, but some dulness on percussion persisted on account of the thickened pleura. Her general condition improved; appetite was restored; and the affected side expands almost as well as the sound side. This was a case where aspiration was indicated, and at one time I urged the operation, but the patient refused, stating that she felt better after each treatment, and wished to continue them, which we did, and she was perfectly cured.

My success in the treatment of acute inflammations in other organs led me to believe that in the acute inflammations of the appendix vermiformis this potent method would also be accompanied with similar results. As the microörganism which causes the inflammation in the appendix varies, so do the symptoms and pathological conditions vary. Some will say, Why delay in operating in acute appendicitis after the diagnosis is made? For the simple reason that many cases do not appear to be severe enough to warrant an operation, and many cases are so fulminant from the beginning, and continue so for several days, that an operation is invariably followed by fatal results. So that, in these latter cases, the surgeon prepares his patient; in other words, he treats the case until these explosive symptoms have subsided before he ventures an operation. In the superheated dry-air method the mild cases are cured and prevented from terminating in abscess. In the fulminant cases the microörganisms are so debilitated that the toxemia resulting from them is arrested, and the condition of the patient is so improved from the destruction of the bacteria that the operation, when it is done, is robbed of its terrors.

*Case 1.*—Miss J——, aged twenty years, a strong and well developed young lady, was taken ill with severe pain in right abdominal region, vomiting, and elevation of temperature; pain

increased upon pressure. Bowels moved by small doses of calomel. Hot-air treatment applied to the iliac region for forty-five minutes, twice daily, at a temperature of 300° to 400° F. All food prohibited except teaspoonful doses of liquid peptonoids hourly. The swelling, which was very perceptible, began to diminish after the fourth day. Tenderness and pain relieved after each application. The temperature fell from 103.5° to 101.5° F. after the second treatment. The treatments were given twice daily for a period of six days, and then once daily for six days, when all of the symptoms had subsided.

*Case 2.*—Mrs. McI——, aged twenty-nine years; seen in consultation last March with Dr. A. Oleson, of this city. Was taken suddenly ill with vomiting, and pain in the pit of the stomach at first. Temperature 99° F. The following day vomiting continued, and the pain was more localized in right iliac region. The bowels were moved with small doses of calomel. Hot-air treatment applied at 350° F. for thirty-five minutes. Patient felt somewhat nauseated during the first treatment only. Temperature the second day was 102° F. Tumor in the iliac region easily determined, and very tender on pressure. The swelling continued to enlarge until the beginning of the fourth day, and then began to recede and become less painful to the touch. Temperature became normal. The treatments were continued twice daily until all the swelling disappeared, which was about the twelfth day of the disease, and then continued once a day for five days more, when the patient was allowed up and about.

*Case 3.*—Harry T——, aged thirteen years; rather slightly built. Was taken ill June 28, with pain, vomiting, and diarrhea. His mother had treated him the first four days. When his condition became serious I was called in, and found the abdomen swollen and tympanitic, with very severe pain in right iliac region. Temperature 104° F.; pulse small and 140; tongue dry. As these symptoms pointed to a severe toxemia and perforation feared, I hesitated about applying the hot-air treatment. The vomiting was gotten under control by starvation, first, and the hot-air treatment given, at a temperature of 350° F., for forty-five minutes, twice daily. The pain was much relieved, and the tympanites gradually subsided. The swelling could be easily defined, although tender to the touch. It was entirely dispersed at the expiration of eight days of treatment, and about the twelfth day of the disease. He was allowed liquid peptonoids, teaspoonful doses, every hour. He was much emaciated

when the convalescence began. He was then sent out in the country, and recuperation was rapid.

*Case 4.*—Mr. M——, aged forty-two years; carpenter; well-developed, muscular man; free from fat. Complained of pain in abdomen and sickness of stomach, but no vomiting. Examination revealed tenderness over McBurney's point, and a swelling in right iliac region could be determined upon pressure. A large inguinal ring permitted the contents of a hernia to protrude on coughing. Temperature 99°; pulse 72. Diagnosis of appendicitis was made. The bowels had been thoroughly evacuated the day before, and consequently only small doses of calomel were ordered. All food prohibited, except dessertspoonful doses of trophonin hourly. Hot-air treatment applied to the region for fifty minutes at a temperature of 350° F. This treatment was followed by a chill in two hours, and a rise of temperature. The following day the temperature was 101° F.; pulse 100. The hot-air treatments were given twice daily, at a temperature ranging from 350° to 500° F., for a period of forty-five minutes. The third day copious biliary stools were passed, and the small doses of calomel were stopped. The tumor was now about the size of a hen's egg, increased slightly from the day previous. No pains over the tumor, except upon deep pressure. On the fourth day of the disease the temperature was 99°; pulse 72; no pain. The treatments were continued twice daily until the ninth day, when the temperature was 98.5°, and pulse 72, but no further diminution in the swelling. I decided to operate. The incision was made over the tumor, and pus, creamy in consistence, freely evacuated. The appendix was found sloughed off in the pus cavity, which was surrounded by thick protective walls from the abdominal cavity. After curetting the site where the appendix was attached, the cavity was packed with iodoform gauze. The patient made an uninterrupted recovery, without any elevation of temperature, and was removed home at the expiration of the second week. In this case perforation of the appendix had taken place, but was not accompanied by any marked constitutional disturbance, as is usual in such cases.

*Acute Osteomyelitis.*—The symptoms of acute osteomyelitis, as sequelæ of typhoid fever, usually develop in the convalescent period of the fever. Osteomyelitis originates by infectious matter being brought from another part of the body, usually the intestinal tract, by the blood-vessels, and deposited in the bone—metastasis of the poison, or of the microörganisms. Osteomyelitis occurs most frequently in the femur of young persons, possibly because this bone grows most rapidly. Our knowledge of the

etiology of primary acute osteomyelitis has been advanced particularly by Kocher, Rosenbach, Kraske, and others. The essential cause in most cases is the presence of the yellow pus coccus, the staphylococcus pyogenes aureus. It is also produced by typhoid bacilli and pneumococci. The prognosis depends principally upon the microörganism causing the disease, and extent of the invading processes. The pneumococci cases are of milder nature than those caused by the staphylococcus. The streptococcus appears to be the most grave. The treatment adopted also has its influence. The early operative procedures now undertaken in the beginning of the disease have given much better results than the older methods, when suppuration was permitted to extend so far as to involve the soft structures surrounding the infected bone and neighboring joints. As compared with other diseases, the prognosis is grave, whether as to the life of the individual or as to the damage to the bone or limb. Necrosis of the bone, inflammation and suppuration of joints, with complete separation of the epiphysis, stiffness, and ankylosis, are results that cannot always be prevented.

The following two cases are of interest, inasmuch as they were treated by superheated dry air:

*Case 1.*—Sidney M——, boy, aged five years; fair, and rather precocious. Was taken ill in the summer of 1898 with gastro-intestinal disturbances, simulating typhoid fever; temperature ranging from 101.5° to 105.5° F.; tympany, tenderness, and gurgling over the cæcum; rose-colored spots on abdomen: no diarrhea. The case was referred to me by Dr. S. K. Falls, who was obliged to leave the city for a few weeks. The treatment consisted of calomel as an opening purgative; guaiacol carbonate; and cold baths to control the fever. This treatment was, with slight variations, continued for a period of two weeks, when he began to complain of pain in left hip and leg when his nurse moved him or placed him in the bath. The pain soon became aggravated, and the boy cried when disturbed, and refused to either move himself or allow any one else to do so. The febrile temperature, which had subsided, recurred, and ran up to 104.5°. Pain and the swelling over the limb increased. The limb was placed at rest with extension. Hot-air treatments were applied at first, with the hope of relieving the excruciating pain, the temperature of the air ranging from 250° to 300° F., over the thigh and groin, and continued for forty-five minutes. This gave such decided relief to the patient that they were applied twice daily, and continued for a week, when the pain, swelling, and fever all subsided. Owing to the gravity of the symptoms I

requested a consultation with Dr. Fenger, who confirmed the diagnosis, and concurred in the treatment. After the cessation of the acute symptoms the hot-air treatment was stopped, but a relapse set in in five days, with all the symptoms of acute osteomyelitis recurring. The hot-air treatment was again adopted, and continued uninterruptedly for four weeks. The boy was now completely cured; pain, swelling, tenderness, and fever all subsided. The limb was kept on extension and rest for two weeks longer, when the patient had gained in flesh and strength, and was allowed up. This patient was seen a year afterward, and suffered from a severe attack of uremia following scarlatina, from which he also completely recovered, and no symptoms of the old osteomyelitis made their appearance.

*Case 2.*—J. R——, boy, aged thirteen years; a tall, strong, well developed lad, above the average for his years in development. Taken ill, and complained of headache and general malaise for ten days, after he returned from a trip in the country. This was followed by pain in the left shoulder-joint and left hypochondrium, with temperature of 102° F. The pain in the shoulder subsided under salicylates, given internally, and as a hot fomentation, locally applied. The fever continued, and pain and tenderness in left iliac region, with rose-colored spots appearing on the abdomen. Slight tympany developed. Temperature ranged from 102° to 103° F. At the end of the second week of treatment, and fourth of the disease, a severe pain in the right hip-joint, extending down the thigh and to the calf of the leg, set in. Subcutaneous veins enlarged, and much swelling of the entire limb and fluctuation at the hip-joint ensued. Severe pain on pressure below Poupart's ligament. The boy refused to move the limb himself, the pain was so aggravated. Hot-air treatment was applied to the joint for forty-five minutes, at a temperature of 350° F., twice daily. The pain and swelling were relieved after each treatment. These treatments were continued for twelve days, when the limb became normal. The temperature continued to range from 99.5° to 100.5° for another week, and then became normal morning and evening.

Osteomyelitis is always a very grave disease; the prognosis is so uncertain in any case that the physician is placed in a position of such great responsibility that he feels his helplessness, so that any treatment that will give relief to this serious disease in the first stages is eagerly adopted. The early operative treatment by cutting down through the bone, and into the medullary cavity, to remove the focus of inflammation and disease, is often the only hope for an early extirpation of the disease, but this

procedure is not always an easy matter for the surgeon to adopt in private practice. The causes are only evident to the surgeon, and the parents are anxious to put off operative measures, until the disease has only too often done serious damage to limb and life.

Again, some cases recover without any operation. In the early treatment, before suppuration is evident, we have, I believe, in the hot air an aid which no other has so far accomplished. The heat applied at temperatures ranging from 250° to 400° F. locally has produced a most remarkably soothing effect. The high temperatures appear to arrest the progress of the disease in its incipiency. The effusion of the joints is quickly absorbed. An active osmosis is established. Leucocytosis is probably increased. The microörganisms may be destroyed, or at least seriously debilitated, so that further injury from them is arrested.

The hot-air treatment does not interfere with an operation if suppuration develops, while it may be the means of completely arresting the disease in the first stage, and thus obviate the necessity of an operation.

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## MODERN METHODS IN THE MANAGEMENT OF TYPHOID FEVER.

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In presenting this subject for your discussion I do not flatter myself that I can give you anything distinctly new or original, but I am led to this selection by the hope that I might more forcibly call your attention to some fallacies that have existed, and still exist, in the minds of our brethren.

One of these fallacies is that typhoid fever is a "let-it-run-its-course" disease—an infectious disease of a self-limiting character. There is not, nor has there ever been, a phrase in medical nomenclature that has been as hurtful and misleading and discouraging to the young graduate, as well as the old mossback and his patients, as the thought conveyed by the term "self-limiting." It carries with it the idea that the *vis medicatrix*

*naturæ* is the only potent factor in a case. Self-limiting diseases are never diseases in which a physician should sit idly by with folded hands and wise countenance, and much complacent grunting, and let the various stages pass before his vision in orthodox succession; and if perchance the patient has sufficient strength and vitality to carry him through the rugged waters of infection, intoxication, ulceration, wasting, lowered vitality, etc., the physician, with much glee and much more self-adulation, exhibits the wasted and weakened unfortunate as a proof of his wonderful skill in pulling so severe and difficult a case back to life—not always to health. The fact is the patient lives as a monument to his inherent vitality—as well as a demonstration of the ignorance and malpractice of his medical adviser.

While the anatomical changes in the intestines, as a rule, when left to nature alone are represented by four stages—(1) the stage of infiltration or hyperplasia; (2) the stage of necrosis; (3) the stage of ulceration; (4) the stage of cicatrization—I must insist that these stages of pathological process, together with gastrointestinal catarrh, marked prostration, rapid wasting, marked nervous symptoms, enlargement and infiltration of mesenteric glands and spleen, parenchymatous degeneration of the other viscera, are not necessary for a case of typhoid fever. We have a frequent demonstration of this fact in the typhoid fever of early childhood in which the disease runs its course without the appearance of the third and fourth stages, viz., that of ulceration and cicatrization. Also in numbers of cases that begin with typical manifestations, with very positive subjective and objective symptoms of the disease; and yet with but little if any treatment we find convalescence well established by the end of the second week, nature having done what we oftentimes fail to do, yet should strive to do, viz., cut short some or many of these various pathological processes. The duty of the physician is to hold in check and prevent these pathological changes as much as possible, and the possibilities along this line are much more than the majority of physicians are willing to admit.

How can we best combat the rapid elaboration of the toxic principles, lessen these pathological changes, prevent this rapid wasting and exhaustion, and bring our cases to a speedier and better recovery? This can best be answered by a hasty review of the more modern and rational methods of general management and treatment. I shall only mention the things wherein I differ from the old orthodox methods that you and I were taught, and that you and I have practiced to the injury of our patients, and that some of you are still practicing with the same results.

*Diet.*—First, let me advance this dictum, that possibly more patients are lost by underfeeding, which increases asthenia and prolongs convalescence, than by sensible and rational overfeeding. Until the profession gets away from the old idea that milk holds the first place—practically the sheet-anchor in typhoid feeding—it will continue to lose patients as before, and typhoid will continue to be the great stigma to the profession that it has been in the past.

"The theory upon which a strictly milk diet is followed in typhoid fever is based upon the assumption that solid food irritates the intestine, and passing over the ulcerated surface of the bowel may lead to hemorrhage or perforation. For many years this view has been prominently expressed, and many practitioners, even at the present time, would as soon administer a deadly drug to the patient as to give him the smallest quantity of solid food. A moment's thought will convince one that the administration of whole milk is in effect the giving of solid food. As soon as it reaches the stomach the casein is coagulated, and it requires a digestive process quite as vigorous as that necessitated by many soft albuminous substances," besides furnishing the finest culture medium for the continued proliferation of all forms of bacteria, as well as favoring butyric fermentation and poisoning. Any physician with abundant clinical experience in typhoid will agree that the early stuffing with milk or other food in the beginning of typhoid is unwise.

I will not take up your time by a further discussion of the theoretical reasons why sweet milk is not a suitable diet. I have discarded it almost entirely from my diet list. I am, however, very fond of buttermilk, and am delighted when we can get our patients to take as much as one quart per day. It is easily digested; it assists in overcoming kidney incompetency; helps the kidneys eliminate the toxins, both typhoid and intestinal, which play such an important rôle in the pathogenesis of this disease, as well as the effete and toxic tissue metabolisms. Nor does it furnish any pabulum for the bacillus typhosus, as does sweet milk, which, in the majority of cases, is seen by the increase of the toxemia. In addition to buttermilk, I am not content unless I get each patient to take from four to eight raw eggs per day. A fresh raw egg furnishes the system everything needed for its nutrition and sustenance. It is a simple matter to induce your patients to take the raw eggs. The numerous ways in which an egg can be made palatable and attractive to the most fastidious palate makes it a comparatively easy matter to give the raw eggs. In conjunction with the eggs, to insure the digestion of the al-

buminoids, as in all catarrhal conditions of the stomach there is an absence of HCl, I always give five to fifteen drops of the dilute HCl in water after eating the eggs, thus giving the acid from four to six times per day, in as many glasses of water.

In addition to these I give my patients all the good nutritious soups I can get them to take, as a physician should not only know them all, but also how to prepare them. Of these soups we have a great number. A knowledge of the culinary art is to me as important as a knowledge of therapeutics. The ignorance along this line of both the laity and the profession is appalling.

Again, the diet can be enlarged by the preparations of the various custards, fruit jellies, and gelatins. In addition, if I find nutrition is still lagging, I employ the various liquid foods, such as liquid beef peptonoids, panopepton, the predigested foods, etc. If in this forced feeding you find the patient is not digesting it well, cut it out for a few days and then begin again.

*Intestinal Antiseptics.*—While we are, with our present knowledge, absolutely unable to reach and destroy the bacilli and counteract their toxins in the tissues, we can and should, throughout the whole course of the disease, relieve and destroy all the intestinal toxemia possible. You can, by proper treatment, bring this to a minimum, as well as lessen the gastrointestinal catarrh. Why should we not treat this catarrhal condition which plays such an important rôle and factor in the nutrition of our patients? I give throughout the whole course of the disease some of the following drugs: salol, bismuth subgallate, urotropin, sulphocarbolate of sodium, and occasionally capsules containing ichthyol two grains, charcoal pv. four grains; and sometimes I use piperine and eucalyptol, with small doses of calomel. Of these urotropin plays a dual rôle, that of an intestinal as well as urinary antiseptic (liberating in the urine formaldehyde). We should not overlook the fact that in typhoid we have one of the most pronounced illustrations of bacilluria and toxic urine; hence the routine use of urinary antiseptics is indicated. I have very little faith in the many other so-called antiseptics (intestinal). For stomachic antisepsis we rely upon sterile food and drink and HCl.

*Purgatives.*—You as well as I were taught that it was bad practice, culpable in the extreme, to give purgatives in typhoid. We were instructed to content ourselves with a simple flushing-out of the rectum. Woodbridge, in his enthusiasm for a specific treatment for this disease, has shown us that you can purge your patient at any stage of the disease not only without hurt, but with benefit. In fact, the cardinal principle in the treatment of typhoid fever is to keep the bowels open. I never hesitate at any

stage of the disease to give either broken doses of calomel, Seidlitz powder, citrate of magnesia, or Rochelle salts, preferably in lemon water. While it is ever best to use the bedpan constantly, especially in rapid pulse and threatened cardiac asthenia, yet we occasionally find a patient with whom it is impossible to use the bedpan. In such cases it is less hurtful to the patient to have him carefully lifted out upon a commode.

*Antipyretics.*—While we all admit that the very best way of reducing temperature is by the cold bath, either after the method of Ziemssen or the more rigid method of Brand, yet so many obstacles are to be overcome in the daily application of these methods in our private practice that they are made impracticable. How impossible it would be to attempt such things in our great typhoid element! A portable tub, three or four intelligent attendants, constant watchfulness, and educated nursing are all necessary. We must rely upon oftentimes unintelligent cold sponging or the scientific application of the cold pack or the "puddle-bath." It has been my experience to find that in certain cases you can get just as good if not better results by the use of the hot pack. This is oftentimes more grateful to the patient than the application of the cold, and with the more rapid evaporation from the surface we get as much refrigeration.

As to the use of internal antipyretics, I will say I do not hesitate, in many of my private cases, to use some of the antipyretics. They often have a most beautiful and satisfactory influence in reducing temperature, calming the nervous system and thereby strengthening the heart, besides possessing some antiseptic powers. It is true that they do in large doses, and even in some susceptible patients in small doses, depress the heart. This, however, can be avoided by proper counter-stimulants, such as strychnine, alcohol, and digitalis. The antipyretics most frequently employed are phenacetine, antikamnia, phenalgin, acetanilid, etc. But the best of all such drugs, the one freest from all objectionable features, is thermol. I have used it for more than a year in almost every case, with uniformly good results, given in doses of from five to ten grains as needed.

There is one thing that physicians oftentimes overlook, and that is the necessity of insisting upon all typhoid fever patients drinking large quantities of good, pure, sterile water. This is a rule that is frequently overlooked, not only in this disease, but in all infectious diseases. The water lessens emaciation, promotes diaphoresis and diuresis, etc. In typhoid, particularly where the kidneys play such an important rôle in the elimination of the

toxins, both typhoid and intestinal, large quantities of water are especially indicated.

Allow me to mention just two of the complications of this disease that are not infrequently met with, viz., hemorrhage and cardiac asthenia. Hemorrhage from the bowels occurs in from three to five per cent of our cases, varying from a slight oozing to large and frequent bloody stools. This symptom is best met by absolute quiet and rest, withdrawing all food for ten to twenty-four hours; hypodermic injections of morphine, antiseptic ergot, ergotal, etc.; cold to the abdominal surfaces, salt solution, either normal or stronger; ice-water enemata, etc. Cardiac asthenia demands alcohol, strychnine, citrate of caffeine in full physiological doses; elevation of the foot of the bed; and absolute quiet and rest. Digitalis is a drug from which you get little effect after granular or fatty changes have taken place in the cardiac wall. If you rely upon digitalis after this condition is present, you will be very much disappointed in the use of the drug.

Of course all these measures and suggestions are best carried out by skilled and trained nurses, and when so much depends upon the feeding, the sponging, the constant and intelligent care necessary in these cases, we cannot overestimate the value of trained nurses.

This is too large a subject to cover in one short paper. I have endeavored to call your attention to a few of the more modern and rational ideas. Let me say this in conclusion, that a routine treatment and course in every case of typhoid, just because it has been the custom from time immemorial to do so, is most culpable. Do not trust too much to nature or the *vis medicatrix naturæ*, but, knowing your pathology from stem to stern, use your own good reasoning powers and treat each case from a rational standpoint.

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The Third International Congress of Medical Examiners for Insurance Companies will be held in Paris in May, 1903.

The Wisconsin Medical Society at its recent annual meeting at Milwaukee elected the following officers: President, Dr. John R. Lyman, of Eau Claire; first vice-president, Dr. L. H. Pelton, of Waupaca; second vice-president, Dr. F. E. Walbridge, of Milwaukee; secretary, Dr. Charles S. Sheldon, of Madison; treasurer, Dr. Sidney S. Hall, of Ripon; delegate to the American Medical Association, Dr. Herman Reineking, of Sheboygan.

# THE MEDICAL AGE.

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EDITED BY FREDERICK W. MANN, M.D.

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## EDITORIAL ARTICLES.

### HEMATOLOGY AND THE GENERAL PRACTITIONER.

The notable advances made in recent years, in the knowledge of the physiological and pathological changes occurring in the blood, have created for the general practitioner a new means of diagnosis and prognosis, which it must be admitted he is as yet somewhat tardy in adopting. The creation of clinical laboratories in all centers of population has done much for practitioners in cities, but there fails to be a general appreciation on the part of more isolated physicians of that which with but little apparatus he is able to do for himself.

The division of the hemic elements into red and white cells is now inadequate. The red blood cells which are designated erythrocytes must now be further divided according to their size and nuclear characteristics into normoblasts, megaloblasts, and microblasts, and certain intermediate forms are known as mesoblasts. The white cells are still known as leucocytes, though six varieties of these are now recognized. The practical value of a true and scientific knowledge of leucocytosis is well exemplified in a case of appendicitis. The mere enumeration of the white cells affords trustworthy evidence of suppuration. In non-suppurative appendicitis, the white cells remain unchanged in numerical ratio. When pus is present a marked increase occurs; the usual proportion of 8000 or 10,000 per cubic millimeter rising to 25,000 or 30,000. This excess always justifies surgical intervention. If after operation the leucocytosis persists, septic complications must be suspected. Kuttner, of Tübingen, has recently shown that if after operation fever ensue, this may be disregarded if the leucocytosis diminish. Dutzmann, of Griefswald, has recently in forty gynecological cases been able to distinguish uterine cancer from suppuration, and fibroid from salpingitis, simply by the blood count.

Typical examples of the value of hematology are afforded by the results in leukemia, malaria, and filariasis. A larger field, however, is open to the observer when he studies the blood bacteriologically, or through its serum reactions, or by spectroscopical examination.

The chief point to be realized at the present day by the isolated practitioner is that he has at his command a method of clinical diagnosis the value of which has been sufficiently demonstrated to justify its adoption as a routine procedure in general practice.

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## EDITORIAL NOTES.

### Intravenous Oxygen Injection.

Some time ago Gärtner, of Vienna, instituted some very interesting experiments bearing on the effects on animals of the introduction directly into the venous circulation of oxygen gas. Gärtner found that dogs can bear the injection of a large quantity of pure oxygen into the veins, even for an hour at a time, without any apparent injury. When the operation was commenced vigorously with large quantities of the gas rather alarming phenomena presented themselves, which Gärtner supposed to be due to a choking of the pulmonary capillaries; these symptoms, however, soon disappeared upon the cessation of the gas. The favorable results of these experiments suggest that the injection of oxygen gas might be worth an attempt in dangerous diseases where suffocation is imminent, as it could be done much more promptly and effectually than by ordinary inhalation.

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### The King's Operation.

The American medical press have not been backward in criticizing the delay which appears to have occurred in operating on the King. They have freely blamed the eminent surgeons employed, without stopping to ask if the King himself had not something to do with it. A coronation ceremony in which the King's subjects had invested large capital, an expectant public, and a monarch before all things desirous of pleasing his people, are factors which may certainly account for delay, and hasty condemnation, before knowing any particulars, is certainly uncalled for.

### The Michigan State Medical Society.

The last meeting of this society was held at Port Huron May 26 and 27. The attendance was encouraging, the papers good in quality, and the discussions animated. The society has adopted the new form of organization modeled upon that of the American Medical Association, which in turn was based upon the British Medical Association. This will give the management of the internal affairs of the society into a body of delegates elected by the various local bodies. That this scheme is one which will permit a more thorough organization of the medical profession seems certain.

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### Superstition and Prophecy.

Not least of the happy omens resulting from King Edward's recovery will be the reproof which the progress of events will give to the fake prophets and Epsom gipsies who have indulged in the gift of prophecy and foretold various calamities which are said to be about to happen to rulers. McKinley, Roosevelt, and probably every crowned head have been made the victims of this superstitious nonsense. The safest kind of prophet is he who takes example from a well known character in fiction, who was famous for discovering the future after it had taken place.

# ITEMS AND NOTES.

Over $10,000 has been subscribed for the building of a hospital for incurables at Indianapolis.

The course of instruction for the medical officers of the Canadian militia has been instituted at Ottawa.

Seven hundred thousand dollars will be expended in the erection of a new hospital at Merida, Mexico.

Under Roman Catholic auspices a modern hospital to accommodate fifty patients is being erected in Macomb, Ill.

At the closing session of the American Medical Association at Saratoga it was decided to meet in New Orleans in May, 1903.

Dr. Edwin S. Ricketts has been elected to the chair of abdominal and gynecological surgery in the Cincinnati College of Medicine and Surgery.

Professor Roosenstein, who attended Queen Wilhelmina in her late illness, has been promoted to the rank of Commander of the Lions of the Netherlands.

An anonymous gift of $100,000 has been recently made to the University of Pennsylvania. The money is to be used in the building of the new laboratories.

Dr. Otis Freeman, who it is claimed was the oldest practicing physician in America, died at Freehold, N. J., April 8. Dr. Freeman was born in New Hampshire on December 30, 1809.

Prof. J. Seegan has given 5000 marks to the Vienna Academy of Science to be awarded as a prize for the best work on the problem of whether a portion of the nitrogen of the albuminates in the organism is excreted in gaseous form through the lungs or the skin. Essayists competing for this prize must use either French or German.

Gen. William H. Forwood has succeeded General Sternberg as surgeon-general of the army. General Forwood was appointed assistant surgeon in the army in August, 1861. His services have been long and honorable, including the Civil War, Indian campaigns, the war with Spain, the insurrection in the Philippines, and the expedition in China. He was twice

brevetted in the Civil War for faithful and meritorious services. His tenure of office will be short, as he will retire for age in September next.

At the meeting of the American Congress of Tuberculosis, which was held in New York June 4 and 5, the following officers were elected for the ensuing year: Honorary president, Dr. Henry D. Holton, of Brattleboro, Vt.; president, Dr. Daniel Lewis, of New York; vice-presidents, Dr. J. A. Egan of Illinois, Dr. Frank Paschal of San Antonio, Texas, Dr. E. J. Barrack of Toronto, Canada, Dr. I. A. Watson of Concord, N. H., Dr. Romola of Guatemala; secretary, Dr. George Brown, of Atlanta, Ga.; treasurer, Dr. P. H. Bryce, of Toronto, Canada.

Senator Hoar, of Massachusetts, recently introduced an amendment to the sundry civil expense bill which was referred to the Committee on Education and Labor. This amendment provides for the establishment, in the Department of the Interior, of a laboratory for the study of the abnormal classes, such study being a development of work already begun under the Federal government. This work includes not only laboratory investigations, but also the collection of sociological and pathological data, especially as found in institutions for the criminal, pauper, and defective classes; as observed in hospitals, schools, and other institutions; also investigation of anarchistic criminals, mob influence, and like phenomena. The causes of social evils are to be sought out, with a view to lessening or preventing them. These results will be collected and published. The amendment also provides for a director in the laboratory at an annual salary of $3500, to have the power to employ specialists to assist him, and such other help as may be necessary. For the expenses thus involved, together with the equipment of the laboratory, $410,000 is to be appropriated, to be available on the passage of the act.

Dr. Sabourin, a well known French physician, has recently published in the *Presse Médicale* the result of the treatment of consumption in the French sanatorium of Durtol. Out of a total of 250 cases, Dr. Sabourin has analyzed the number of patients cured. By this is meant that for three months there have been neither expectoration nor cough, that the patient looks well, and shows no reaction after exercise or any other causes which produce a change in a tuberculous patient. On their arrival at the sanatorium examination showed that, out of the total of 250 cases, 100 had lesions which prevented all chance of a cure. Out of the 150 that were not too far gone 94 were discharged cured, which makes a percentage of sixty. Of the

100 who were incurable 2 did ultimately recover. Out of the 94 cured 10 have since had a relapse. There were, therefore, 84 patients who recovered out of a grand total of 250, which makes a percentage of thirty-four. The 94 patients were affected in the following manner: Fourteen had lesions of the first degree, 56 of the second, and 24 of the third degree.—*Journal of the American Medical Association.*

A COMPLIMENTARY dinner was given to Dr. George M. Sternberg, the retiring surgeon-general of the United States Army, at Delmonico's on the evening of June 13, to give the physicians and surgeons an opportunity of expressing their appreciation of the work which that officer has done during his term of office. About one hundred well known physicians and surgeons from various parts of the country were present, several of them making speeches explaining the progress which has been made toward alleviating the sufferings of sick or wounded soldiers during Dr. Sternberg's incumbency of the office of surgeon-general. The banquet was presided over by Dr. E. G. Janeway, of New York. Among those present were P. M. Rixey, surgeon-general of the U. S. Navy; Dr. William Osler, of Baltimore; Dr. Abraham Jacobi and Dr. Frank Billings, of Chicago; Assistant Surgeon-General Henry Lippencott, U. S. A.; Dr. J. D. Bryant; Assistant Surgeon-General A. H. Smith, U. S. A.; Dr. Robert F. Weir, Dr. I. N. Love, and Dr. Herman M. Briggs.—*New York Medical Journal.*

THE Royal College of Physicians of London and the Royal College of Surgeons of England have conjointly drawn up a detailed scheme for systematic investigation of cancer, and the next step will be an appeal to the public for a fund to provide, extend, equip, and maintain laboratories to be devoted exclusively to cancer research; to encourage researches on the subject of cancer within the United Kingdom or in the British Dominions beyond the seas; to assist in the development of cancer research departments in various hospitals and institutions approved by the executive committee; and generally, to provide means for systematic investigation in various other directions into the causes, prevention, and treatment of cancer. Should the object of the fund be attained by the discovery of the cause and nature of cancer and of an effective method of treatment, the Royal Colleges, with the consent of the trustees, shall be empowered to utilize the fund either (*a*) for equipping with the necessities for such treatment such hospitals as they may select, or (*b*) for forwarding research into other diseases. The fund shall, says

*American Medicine,* be administered by a president, vice-presidents, five trustees, three of whom may be nominated by the donors of sums of £1000 and upwards, and one each by the Royal Colleges of Physicians and Surgeons' honorary treasurer, general committee, and executive committee. The general committee includes all the officers already enumerated, the members of the executive committee, and also has one representative each from the Royal Colleges of Physicians and Surgeons, of Edinburgh and Ireland, from the Faculties of Physicians and Surgeons in Glasgow and the Royal Veterinary Colleges of London, Edinburgh, and Ireland, and from donors of sums of £1000 and upward. The general committee shall meet from time to time to hear reports from the executive committee on the general progress of the scheme, account of expenditure, and the audited financial statement. The executive committee—consisting of (*a*) the president (for the time being) and two fellows of the Royal College of Physicians of London; (*b*) the president (for the time being) and two members of the Council of the Royal College of Surgeons of England; (*c*) two members of the laboratories committee of the Royal College of Physicians and Surgeons; (*d*) two members nominated by the general committee; (*e*) one member nominated by the Royal Society; (*f*) one member nominated by the Royal Veterinary College, London—shall have control of the income of the fund and shall be charged with the general supervision and management of the arrangements to carry out the objects of the fund; shall appoint the working and consultative staffs and draw up the regulations under which the work shall be conducted. The working staff shall consist of: (*a*) A general superintendent of the investigation who may be the director of the central laboratory; (*b*) assistants to the general superintendent and director; (*c*) any other persons who may be appointed to make special investigations. The consultative staff shall consist of persons skilled in scientific investigations, representatives of various home and colonial government departments, physicians and surgeons attached to hospitals, statistical experts, and others appointed by the executive committee. The consultative staff may receive fees for attendance at meetings, and may be remunerated for any services performed in connection with the objects of the fund, on such conditions as the executive committee may determine.

# NEW PUBLICATIONS.

## PRACTICAL DIETETICS.

The growing attention given to the dietetic treatment of disease will insure an increased appreciation for this excellent work upon the subject.

The new edition is practically a new book, as most of it has been entirely rewritten. The author has availed himself of much new material, notably the admirable contributions to dietetics published by the United States Department of Agriculture—the results of food studies conducted at various experiment stations. The dietetic management of the various diseased conditions is given with precision and exactness, and the manual is one which is as essential to the physician's library as any text-book he may possess.

Practical Dietetics. Second Edition. Edited by W. Gilman Thompson, M.D. New York: D. Appleton & Company.

## THE PRACTITIONER'S MANUAL.

Those who are familiar with the first edition of this excellent manual will not be surprised at the speedy demand for a second edition. The scheme of the work is somewhat exceptional, differing from customary works on therapeutics in its supplementary character. The book abounds in practical suggestions, in useful formulæ, and in concise summing up of the essential points of diagnosis. The new edition is thoroughly up to date, and affords the busy practitioner a comprehensive view of the principles of treatment adopted by leading therapeutists. Nothing but success can be predicted for this useful book.

The Practitioner's Manual. Second Edition, Revised and Enlarged. Edited by Charles Warrenne Allen, M.D. New York: William Wood & Company.

# THE PROGRESS OF MEDICAL SCIENCE.

## SURGERY.

### The Relation of the Caliber of the Urethra, and Especially of the Meatus Urinarius, to Vesical Tone.

The normal vesical tonus depends, according to G. F. Lydston (*American Medicine*, June 21, 1902), upon a certain degree of physiologic obstruction to the urinary outflow.

The structural and functional integrity of the vesical walls depends upon the same resistance.

The resistance is normally most marked at the meatus, although the entire urethra is a factor in its production.

This resistance is both elastic and inelastic at different points in the urethra, and in varying conditions.

An exaggeration of this resistance produces atony of the bladder in old subjects, hypertrophy and exaggerated power in the young. Exceptionally, it produces atony in the young, but as a rule only as a reflex neurosis.

A marked diminution of this resistance, such as results from urethrotomy, and especially meatotomy, produces vesical atony of greater or less degree.

The foregoing should be borne in mind by the surgeon, and in certain cases the resistance of the meatus preserved by careful operative technique.

In most cases the resulting atony is of little moment, but it is always worthy of consideration, and in some cases of sufficient prominence to be worthy of serious attention.

In cases in which a free urethrotomy has been performed, it is wise to instruct the patient to compress the meatus somewhat during micturition, so as to maintain the normal vesical tonus by offering sufficient resistance to the outflowing urine to properly exercise the vesical muscle.

### Disinfection of Hands with Alcohol.

R. Schaeffer (*Berl. Klin. Woch.*, Nos. 9 and 10, 1902) regards the conclusions drawn by Paul, Sarwey, Kronig, and others, that no means or methods exist by which the hands may be rendered even moderately free from microörganisms, as too sweeping, and inquires carefully into the question from a practical point of view. One may attempt to disinfect hands by (1)

mechanical means, and (2) chemical solutions. The first method is absolutely untrustworthy. In his investigations with chemicals he classifies the various solutions according to the number of colonies which appear on an agar plate which had been inoculated with the scraping of the skin by a sterile toothpick. In all cases he speaks of "poverty of germs," and not "absence of germs." In the case of disinfection with alcohol he washes his hands for five minutes vigorously in very hot water, with soft soap and a clean nail-brush. The nails are then carefully cleansed with a suitable instrument, and the hand energetically rubbed with a sterile towel. After this he scrubs his hands for three or five minutes in alcohol, changing it once or twice. His experiments give very much better results with this method than with disinfection by other means. Mikulicz's soap spirit gives the next best results, but these when compared with the "alcohol method" may be numerically expressed (average number of colonies) as 3 to 25 in favor of Schaeffer's method. Lysol (1.75 per cent), hydrarg. ethylene-diamin (4 per cent), corrosive sublimate (1 per cent), chinosol (6 per cent), lysoform (3.3 per cent), and Scheich's marble soap gave very unsatisfactory results, the number of the colonies increasing in the order given and being very considerable. The last named gave about the same results as simple washing in hot water and soap. Inquiring into the method of action of the alcohol, he finds that its bactericidal properties are not marked, as demonstrated by brushing the hands infected with staphylococcus in 150 grammes of alcohol, after washing in hot water for one minute, and after the lapse of twelve minutes testing the filtrate of the alcohol on agar plates. A second method of action depends on the hardening properties of alcohol, while a third rests on its power of dissolving fats and epithelium. Schaeffer states that the chief value of alcohol as a disinfectant for the hands takes place by means of a mechanical cleansing and not by a chemical change. He believes it to be the best method known up to the present time.

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### Indications for Lithotomy as Opposed to Lithotripsy.

At a recent meeting of the Berlin Free Society of Surgeons, H. Bouchert (*Medical Press,* June 11, 1902) spoke on the indications of lithotomy as opposed to lithotripsy.

Lithotripsy is in general to be preferred, but it has its limits. The stone must not be too hard, nor so large as to nearly fill the bladder. Changes in the urinary canal would also influence

the choice of operation. Cystitis is also an indication for lithotomy, as also a very sensitive bladder or diverticula in it. Enlargement of the prostate is on the whole not a contraindication, but there are two forms in which it is, viz., when along with the hypertrophy there is concentric hypertrophy of the bladder wall, whereby the lumen of the bladder orifice is materially affected, and when the middle lobe of the prostate is specially affected. In cases of already existing pyelitis, and the simple introduction of the catheter sets up fever, etc., lithotripsy is out of the question.

In summing up the speaker said that generally in cases of calculus lithotripsy is the operation to be preferred, but there are certain exceptional conditions in which lithotomy is demanded.

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## MEDICINE.

### The Blood in Appendicitis.

J. C. Da Costa, Jr., has collected a series of observations on this now important subject, and the results of his investigations are as follows (*American Journal of the Medical Sciences,* November, 1901): (1) The average case of appendicitis before operation shows a loss of about thirty per cent of hemoglobin, and of more than half a million erythrocytes per cubic millimeter. Occasionally the anemia is of a grade so high that it appears to constitute in itself a serious complication, and to raise a doubt as to the safety of surgical interference should the latter otherwise be indicated. Doubts on this score, however, have not been justified by the records of the cases included in this series. (2) Moderate leucocytosis may occur both in the absence and in the presence of an abscess and its consequences. It accompanies about thirty-five per cent of non-purulent and ninety per cent of purulent cases. (3) Leucocyte counts ranging between 10,000 and 15,000 or 17,000 cannot be depended upon to reflect the nature of the local lesion, since this degree of increase may be found both in catarrhal and in purulent cases. Counts of 20,000 or more almost invariably indicate the presence of pus, gangrene, or general peritonitis, one or all. (4) Leucocytosis may be absent both in trivial, catarrhal, and in fulminant cases, as well as in forms of circumscribed abscess. (5) In operative cases, thorough evacuation of the abscess is followed within a few days by a decline to normal in the number of leucocytes provided that the recovery of the patient is uneventful. Persistence of the leucocytosis after the third or fourth day following the

operation may usually be attributed either to undrained pus-pockets, to general peritonitis, or to both of these factors. In a patient unmistakably septic absence of leucocytosis should be interpreted as a sign of intense infection, the prognosis of which is more likely grave than favorable. A high leucocytosis in such instances does not necessarily indicate a favorable prognosis, but simply represents an intense affection coupled with normally active resisting powers on the part of the patient. Absence of leucocytosis in a patient with mild, indefinite symptoms is a clinical sign of no tangible value, in so far as it may serve in detecting the presence of pus; since a large abscess, if thoroughly circumscribed, may exist without causing the slighest increase in the number of leucocytes.

The writer emphasizes the importance of not being led into the diagnosis of appendicitis in the presence of these blood changes alone, as other conditions—such as ovarian abscess, pyosalpinx, ectopic pregnancy, perinephritic abscess, hepatic abscess, empyema of the gall-bladder, and malignant disease of the cæcum—have all been known to give difficulty in diagnosis from appendicitis, and in each of these examination of the blood may show similar conditions. The non-occurrence of leucocytes in typhoid fever is, however, of assistance.

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### The Etiology of Acute Hemorrhagic Pancreatitis.

Halsted (*Johns Hopkins Hospital Bulletin*, May-June, 1901) records a case of acute hemorrhagic pancreatitis, and Opie gives details of the post-mortem examination and of some experiments undertaken to elucidate the etiology. The subject was a corpulent and robust man aged forty-eight, whose symptoms were very acute abdominal pain and cyanosis; the pulse was only 92, and there was no great local tenderness on palpation. The diagnosis was gall-stones. Death took place in twenty-three hours after operation, at which abundant blood-stained fluid was found in the abdominal cavity, fat necrosis, hemorrhage in the region of the pancreas, and a distended common bile-duct. Post-mortem the pancreas was represented by a blackish swollen mass; the termination of the pancreatic duct united with the common bile-duct 10 millimeters from the summit of the bile papilla to form the so-called diverticulum of Vater; filling this common diverticulum was a small concretion. In this way the bile and pancreatic ducts formed a continuous channel, and the escape of both secretions was obstructed by this concretion blocking their

common outlet into the duodenum. The pancreatic duct was stained bright green with bile, and there had evidently been a regurgitation of bile along it.

In a series of seventeen cases examined, Opie found that the pancreatic and common bile-ducts opened independently into the duodenum in three, and in the others the diverticulum of Vater varied in size from 1 to 11 millimeters. The pancreatitis in this case was apparently due to the action of the regurgitated bile. Experimentally it has been shown that a variety of substances injected into the duct of the pancreas cause hemorrhagic inflammation, but how far they can be used to explain the pathogenesis of human cases is doubtful. The suggestion of Hlava that gastric juice may be driven by antiperistaltic action of the intestine into the ducts is not supported by any evidence, and the relation of hemorrhagic pancreatitis to bacterial invasion from the intestine has not been demonstrated. Opie found experimentally that injection of bile into the pancreatic ducts of dogs causes a necrotizing hemorrhagic inflammation of the pancreas resembling the human lesion, and like it accompanied by fat necrosis. The frequent association of cholelithiasis with hemorrhagic and gangrenous pancreatitis appears to be the result of impaction of gall-stones at the orifice of the diverticulum of Vater and the penetration of the bile into the pancreas.

## THERAPEUTICS.

### Ichthargan Treatment of Gonorrhea.

The advantage claimed for this new antigonorrheic remedy is its high percentage of silver. While protargol, argonin, etc., contain from 4.2 to 15 per cent of silver, ichthargan contains no less than 30 per cent. Ichthargan is a brown, amorphous, stable powder, with a faint odor suggestive of chocolate, and easily soluble in water. The solutions should be kept in dark bottles. Investigations have shown that ichthargan possesses a greater germicidal power than silver nitrate, due perhaps to the ichthyol contained in it. The drug has been quite extensively tried in gonorrhea, and the reports are very favorable.

Dr. E. Saafeld has employed the remedy in 140 cases of gonorrhea. Various stages and localizations of the disease were represented. In acute gonorrhea, injections with ichthargan, 1 grain in 8 ounces, were ordered every three hours, gradually increasing the strength to 1½ grains in 8 ounces.

Irrigations of the urethra were performed with solutions of 1:4000 up to 1:750. For instillations, one-half- to five-per-cent solutions were used.

The author agrees with others that ichthargan has the advantage of being less irritating than the older silver preparations. He believes that gonorrhea can be cured by using ichthargan only, graduating the solutions according to the stage and intensity of the disease. This feature ought to give the new remedy a decided preference over its old competitors.

Dr. B. Golberg (*Therap. Monatsh.,* March, 1902) employed ichthargan in a series of sixty cases. He used solutions of the average strength of 1:3000 to 1:2000. Strong solutions, often up to 1:500, were used from the beginning. According to the seat of infection, the intensity of inflammation, the condition of the urethra, etc., the form of application was different. In the form of injections, from 1 to 4 drachms each were given. The duration of the injection varied with its concentration: thus, it was five minutes with a 1:3000 solution, and was repeated every five hours; or it was three minutes with a solution of 1:1500, repeated every eight hours, etc. In the form of irrigations the drug was applied either to the anterior urethra only, or, after washing out the latter, to the posterior urethra and the bladder.

The action of ichthargan is first of all antiseptic. Solutions of 1:500 will kill gonococci in cultures within one minute; in the strength of 1:1000 five minutes are necessary, and even in 1:10,000 the gonococci die in twenty minutes. Another feature of ichthargan is its desquamative action, bringing about an increased secretion for a time, and thus favoring the elimination of the gonococci. Finally, the remedy acts as an astringent. On account of the fortunate combination of these different properties, ichthargan is a very reliable antigonorrheal remedy.

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### The Action of Antistreptococcus Serum.

At the recent meeting of the German Surgical Congress, H. Lavil (*Medical Press,* June 4, 1902) spoke on the action of antistreptococcus serum. He referred to experimental and clinical observations he has made with it. The action is a simple antibacterial one, not antitoxic, as he has satisfied himself by experiment. As to his clinical observations, in eleven cases of sepsis improvement took place in fifty per cent. In twelve cases of erysipelas a curative effect was exercised in seven cases, one case of scleroma recovering. Three cases of meningitis, one recovery;

eight cases of pneumonia, all recovered; two of tuberculosis, both improved; three of phlegmon, all very much improved. The effect of the serum is not confined to streptococcus infection; it is useful also in staphylococcus infection. In a large number of cases the action was striking, sometimes it was slow, while in other cases no effect whatever could be discerned.

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## OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,
Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

### The Prophylactic Treatment of Myopia.

The prophylactic treatment of myopia, according to A. Duane (*New York Medical Journal,* June 7, 1902) consists in the following:

1. Making the patient employ the full correction of his myopia all the time, and both for distance and near. This is of prime importance in all varieties of myopia, low, medium, and high, and if applied early, may check the progress of the myopia altogether.

2. Proper attention to illumination, the size and legibility of the print, the quality of the paper used in the books read, the relative height and disposition of the seat and desk, and the many other factors that have been brought out by the zealous investigators into the subject of school hygiene. These are important but subsidiary matters.

3. In low and medium myopia, moderate restriction of near work, or rather its better distribution, so that it is done mainly by daylight and not for too long at any time; furthermore, momentary rest of the eyes at frequent intervals during the work. These rules to be the more strictly enforced the higher the myopia and the younger the patient.

4. In high myopia with evidences of progress, much more stringent restriction of near work. Open-air work to be encouraged, and the adoption of confining and eye-taxing occupations forbidden.

5. In medium and especially in high myopia, plenty of sleep and out-of-door exercise.

6. Reëxamination of the patient at frequent intervals (which in the case of high myopia should be very frequent), to de-

termine how much the myopia has increased. It it has increased, the glasses should be increased also up to the full strength, and the hygienic regulations above detailed modified accordingly.

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### Dionin in Ophthalmology.

Dr. Schmitz (*Woch. f. Therap. u. Hyg. des Auges,* iv, No. 38) has had occasion to use dionin in five cases of ophthalmic disease, and expresses his great satisfaction with the results, especially in a case of parenchymatous keratitis. The patient, who was on the verge of total blindness, owes his recovery to a course of treatment with dionin. Other similar cases were recorded by the author. The application of the drug produces only transient swelling of the lids. The rapidly increasing favorable literature on dionin justifies the hope that the drug will prove to be a permanent acquisition in ophthalmic therapeutics.

Dr. Albert Terson draws our attention to the local analgesic value of dionin in hemorrhagic glaucoma. Glaucoma is a well known complication of the classical retinitis albuminurica, and treatment by iridectomy is in such cases contraindicated.

The author's patient, a woman of sixty, was suffering from pains due to glaucoma complicating the retinitis of Bright's disease. The pains were so intense and resisted all measures so obstinately that enucleation of the eyeball was considered. As a final resource dionin was tried, a solution of 1 :40 being dropped in the eye thrice daily. The effect was most striking and prompt, and the patient thus narrowly escaped the operation. This analgesic action of dionin was also observed in other affections of the eye, and is confirmed by various authorities.

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### Temperature After Mastoid Operation.

Harris (*Annals of Otology, Rhinology, and Laryngology,* May, 1902) after a study of the records of 100 uncomplicated cases of mastoiditis operated upon at the Manhattan Eye and Ear Hospital feels warranted in making the following conclusions:

1. Postoperative temperature of moderate amount is customary in mastoiditis.

2. The cause of it has not yet been definitely determined.

3. Without other symptoms it is without significance and should not be a source of anxiety.

## GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

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### Cæsarian Section.

E. P. Davis (*American Journal of Obstetrics,* February, 1902) has reported six cases; the indications for the operation were as follows:

1. Slightly contracted pelvis and head impacted in the brim. At the patient's request further conception was rendered impossible by hysterectomy. Mother and child both well.

2. Marked scoliosis of the vertebræ in the lower dorsal and upper lumbar regions in a dwarf. When labor came on the head lay across the pelvic brim, with a hand and arm alongside it. In spite of strong pains the head would not engage. Hysterectomy was performed to prevent further conception. Mother and child both well. In each of these cases there had been a previous confinement, long and difficult, with delivery by forceps.

3. Six of the children had perished at birth from dystocia in previous confinements. In the present labor forceps had been used unavailingly, in spite of deep anesthesia, and on admission to the Maternity the patient was in a condition of profound shock. The cervix was found dilated and a large head wedged into the brim of the pelvis. The child was dead. Craniotomy was performed, but as the fetus could not be extracted, a Porro operation was done without delay. The patient rallied slowly and recovered.

4. Oblique contraction of the pelvis in a primipara, the result of double hip-joint disease and rachitis in childhood. When labor came on hysterectomy was performed, after the child had been removed, so as to prevent further conception. Mother and child did well.

5. General dropsy, accentuation of second sound of the heart, and increase of arterial tension. Sight dim, due to serous swelling of the retina, albumin in urine in abundance, in a primipara between seven and eight months pregnant, who in childhood had had scarlet fever, and repeatedly uric acid in large quantities in her urine. Labor was induced by dilating the cervix under chloroform and passing bougies. A few hours later eclampsia supervened. Condition very grave. Cæsarian section rapidly

performed. She rallied from the operation, but in a few hours coma came on and ended fatally. The child died.

6. Melancholia in a primipara in the later months of pregnancy. Slight contraction of the brim of the pelvis. Breech presentation, but owing to feeble pains the breech did not descend. The child was a large one, and there was lack of expulsive effort on the part of the mother. Cæsarian section; child alive. The mental condition of the mother gradually improved after the operation. In this case the operation was done more to save the life of the child than of the mother.

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### Retrodeviations in Nulliparæ and Virgins.

Hayd (*American Journal of Obstetrics,* November, 1901) points out that the general opinion that backward displacements are special to married women and multiparæ is erroneous, and that they are met with in nulliparæ, and even in young girls, much oftener than has been supposed. Among the last fifty Alexander operations performed by him, eleven were upon women who had never borne a child, and nine on young girls, of whom one was only fifteen years old. In these patients the retroflexion, with its train of nervous and painful symptoms, had generally existed from puberty, and in many the uterus was more or less infantile; on the other hand, the round ligaments showed no atrophy save in such as had been suffering for many years; in young girls they were rather more prominent than in multiparæ. Many such patients, in default of a gynecological examination, are liable to remain sterile, or to lead a miserable existence, while surgical intervention, consisting in dilatation of the cervical canal, curettage, and Alexander's operation, when opportunely performed, is most beneficial. Pessaries are useless, as the displacement is fixed, and often associated with genital hyperesthesia.

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### Triple Ectopic Gestation.

Wilmer Krusen communicated to the Philadelphia County Medical Society, October 26, 1901, a remarkable case of ruptured tubal pregnancy with three fetuses in the second month. The only similar case he can find was reported by Sanger (*Centralbl.,* 1893), and was a twin interstitial pregnancy with a third ovum at the fimbriated end of the same tube; but Krusen's case was a true unilateral triple tubal gestation, the course of the uterus not being involved.

# THE MEDICAL AGE

VOL. XX. DETROIT, JULY 25, 1902. No. 14.

## ORIGINAL CONTRIBUTIONS.

### THE CRIMINAL USE OF CHLOROFORM.

BY J. HOWE ADAMS, M.D., PHILADELPHIA.

The recent trial of a lawyer in New York for the murder of his client brought up again the interesting question as to the possibility of chloroforming a sleeping person without awakening him. The popular and professional belief nowadays is that this is impossible, but there is strong evidence that this is not always or necessarily true. In this connection, the apparently forgotten experiences of Quimby are of value.

This authority has made an interesting report on facts connected with the use and abuse of chloroform, which is instructive to the profession.

In consequence of the murder of a policeman in Jersey City, while he and his wife were supposed to be asleep in bed, his wife was arrested as a *particeps criminis*. She denied the charge, and asserted that she had been chloroformed, during sleep, and therefore was innocent of the crime. The State denied this, and contended that it was impossible for her to have been chloroformed in that way; that the fumes of the chloroform would have certainly awakened her from her natural sleep, and therefore she must have known who the murderer or murderers were.

Here, then, as will be seen, arose a very nice and important medicolegal question, viz., whether a person could be chloroformed whilst in natural slumber without first being awakened; or, in other words, whether the application of chloroform, properly given, would awaken the person to whom it was applied; or, could such person pass from the natural to an artificial sleep (or chloroform sleep) without being aroused by its application? Mrs. Smith asserted most positively that she was chloroformed while she was asleep in bed with her husband, and knew nothing about the murder until she awoke in a bewildered condition, feel-

ing the cold elbow of her husband pressing against her side. It may be stated here that there was found in the room of the murdered man a bottle partly filled with chloroform, and a folded towel, with bloody finger prints, which Mrs. Smith asserted was upon her face when she awoke; she also described quite accurately the taste, smell, and pungency of chloroform. Without going into further details, the counsel for Mrs. Smith applied to Dr. Quimby, to know if it were possible to transfer a person from a natural to an artificial sleep by the use of chloroform without first arousing the sleeper from his natural slumber. He had never attempted the application of chloroform to a person while in a natural sleep, and the books, as far as he knew, were silent on that point; yet he thought there would be no difficulty, if proper care were taken in administering the chloroform, in transferring a person from the natural to an artificial sleep. Dr. Quimby was urged, in behalf of humanity and justice, to settle by experiment this disputed question, and made arrangements with Mr. A—— to enter his room an hour or two after he had retired, and when he was asleep to apply the chloroform. This was done with entire success, the sleeper being transferred from the natural to the chloroform sleep without arousing him from his natural slumber. About three drachms of Squibb's chloroform was required, and the process occupied about seven minutes.

The second case was a boy, aged thirteen, who was suffering from an ingrowing toe-nail. He refused to allow any one to touch him with the knife or forceps without etherizing him. When Dr. Quimby attempted to apply the ether he screamed and struggled so desperately that his mother became frightened and asked the physician to desist from giving him ether. In this dilemma the mother put the boy to bed with a light supper, and the physician called at the time agreed upon, and found the boy quietly sleeping. He applied the chloroform, divided the nail in the center, and removed the two segments by the application of forceps, without awakening the patient, or his having any knowledge of the operation, until next morning when he awoke, and discovering the condition of his foot, remarked that had he known "it would not hurt any more than that, he would have had it taken out at the office, and was ashamed that he had made such a fuss about it."

The third case was a boy, ten years old, who was brought to Dr. Quimby's office suffering from a swelling over the lower jaw, which proved to be an abscess due to decayed teeth, but the boy would let no one come near him with either lancet or forceps. The physician sent the boy to bed with a light supper,

and stated that he would call at the house after the boy was asleep, administer chloroform, open the abscess, and extract the teeth. All of this was done without arousing the boy. The physician took the precaution of remaining with the patient about one hour after the operation to attend to any hemorrhage that might occur, and to observe if any change would take place when he would pass from his artificial to his natural slumber again. When the doctor called next morning, the family reported that the boy awoke at six o'clock, exclaiming, "I must have swallowed my teeth, for they are both gone."

Two important inferences may be drawn by Dr. Quimby from the above quoted cases, viz.:

First, that minor surgical operations, such as opening abscesses, removing ingrowing toe-nails, etc., may be done with perfect safety and much more pleasantly than in the ordinary way.

Secondly, a person somewhat skilled in the use of chloroform may enter the sleeping apartment of a person or persons and administer the drug with evil intentions. Hence the use of chloroform in the hands of the criminal may become an effective instrument in the accomplishment of his nefarious designs.

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## APPENDICITIS: A SERIES OF CASES OPERATED UPON.*

BY T. J. CROFFORD, M.D., MEMPHIS, TENN.,
Professor of Gynecology, Memphis Hospital Medical College.

*Case 1.*—Miss W——, aged twenty-two, was taken ill in the autumn of 1897 with all the indications of a moderate attack of appendicitis. I saw her in consultation with her physician. The case in a few days responded to the ordinary treatment. She got up, but was never entirely well. She had dysmenorrhea; the rhythmical pains which preceded the flow indicated it to be of the obstructive variety. In the interval between the monthly periods she was never very long at a time free of pelvic discomfort. The site of the greatest pain was quite frequently more over the right ovary than the appendix. There was nothing definite enough to allow me to discriminate between the two; there was not sufficient severity of the symptoms to demand a section.

She was lost sight of by me, but these conditions, I am told,

*Read by invitation before the Mississippi State Medical Association.

continued about the same until a few months ago, when they became worse, especially the dysmenorrhea. I was asked by the same physician to see her again. I now proposed a dilatation of the cervix uteri. The operation was performed at her home. The rectum was also dilated, and a few moderate sized hemorrhoids were removed. She seemed to be better for a few weeks, but soon relapsed into her former condition of semi-invalidism. I saw her again. The pain continued. Abdominal section was agreed upon.

Upon opening the abdomen in the median line a local peritonitis was found to exist. The right ovary and tube, as well as the appendix vermiformis, were found to be diseased. All these organs were removed. The appendix was less adherent than the two former, but its free end was rendered bulbous by inflammatory thickening, and its cavity contained four or five drops of pus.

I cannot say positively, but it is my opinion that all the disease found in its vicinity was due to the appendix, which leaked at irregular intervals, a very small quantity of pus producing the localized peritonitis which caused the pain. She recovered from the operation. The pain has not returned.

*Case 2.*—Miss G——, aged twenty-one, a school-teacher in the Mississippi Delta, has had several attacks of appendicitis within the past two years, the first of which followed a rather severe illness from typhoid fever. Her physician sent her to me for operation.

She was operated upon the day following her admission. Incision was made in the usual manner directly over the appendix. There was found localized peritonitis. The appendix was adherent to the right ovary; the latter with its tube had also suffered the ravages of inflammation. She went to her home three weeks ago. She wrote me last week that she was well.

*Case 3.*—Mr. G——, aged twenty-six, has had within the past two years several very severe attacks of appendicitis, the first of which followed typhoid fever. Between these attacks he appeared to be perfectly well. When he came to me, in response to the urgent desire of his physician, he declared that he never felt better or more comfortable in all his life.

A physical examination revealed nothing except a more tense condition on the right side than the left exhibited. I then supposed it to be due to muscular resistance, but I now think it was due to adhesions. These were found to be extensive upon opening the abdomen. The line of cleavage was found and followed up until the appendix was located and very cautiously dug

out of its bed. When freed and cut off it was found to be the shape and size of a thumb of an ordinary man. It was distended to the utmost with seropurulent fluid. By catching it close to the cæcum with an ordinary hemostatic forceps it was ligated without soiling the surrounding tissues.

Upon examination the whole of the anterior surface of the cæcum was found to be denuded of its peritoneal covering, and in some places the muscular coat. It was evidently unsafe to return this into the abdomen and leave it in this condition.

The gauze pack was used in order to protect the cavity from the sluice of feces which was to come within the next few days. This pack was allowed to remain for one week, notwithstanding its foul condition, incident to the fecal saturation. The gauze was composed of small strips, and so spread out above as to completely protect the peritoneum from all suspicious bowel. These strips were removed one at a time at the different dressings. The healthy cavity remained walled off after the gauze was all taken out. The wound was dressed and packed daily, but was never irrigated. The cavity contracted by degrees, as well as the considerably smaller external opening. Feces ceased to stain the gauze packing after two weeks. He remained in the institution for six weeks, at which time the sinus would barely admit a pocket probe. He was told that it would, in the light of my experience, not heal until all the diseased tissues had been cast off. It might be a few weeks, or possibly a few months, in accomplishing this.

One point in this case that especially interested me was the absence of all discomfort amidst the extensive adhesions and almost rotten condition of the bowel. Is it due to the paralysis of sensation by a toxemia of the disease? Whatever the cause may be, it certainly illustrates the deception and treachery of a most murderous disease.

*Case 4.*—Mrs. G——, aged thirty-five, the mother of four children, the youngest of which is two months old, had suffered from attacks of appendicitis at intervals for two years. The last attack was very severe and occurred since recovery from her recent delivery.

The operation was performed on March 12, 1901. The appendix was elongated and passed along the summit of the broad ligament, and was attached by its free end to the right ovary. Several times each season it has been my fortune to see the appendix and right tube and ovary matted together deep down in the pelvis, but this is the first time I have ever seen them united in this peculiar manner. It was removed with the right tube and

ovary. Upon examination, the left ovary was found to be cystic to the size of a hen's egg. It was removed with its tube, which was also diseased. She has been entirely free from pain since the operation.

*Case 5.*—Mr. A——, aged forty, had been a sufferer for the past ten years with pain almost daily in the abdomen. Whilst this pain has never been extreme, yet very few days have passed without discomfort. His features were pinched; his complexion was pale and evinced a poor capillary circulation. About once a week for several years he has had to take one-eighth grain of morphine at night. It has been his habit to take about once a week a very large enema, retain it until the contents of the colon were softened, when he would pass an enormous quantity of fecal accumulation. He was unable to evacuate the colon without this.

He has been doctored for many diseases, among them chronic malaria and dyspepsia. His mind has been depressed on account of bodily discomfort. His digestion and assimilation were decidedly bad.

Physical examination of the abdomen was barren of the evidences of disease. Being a druggist, he had read and knew something of the literature of appendicitis. He had diagnosed his case, and with my approval desired me to open the abdomen. I concurred with him.

After a day's preparation his abdomen was opened over the McBurney point. There was very little, if any, local peritonitis present. The ileum was lapped over the end of the cæcum, and extended upon the anterior surface—an unusual condition. It was firmly adherent. The short, shriveled, hard appendix could not be seen, but could be felt by taking the mass between the fingers. The line of cleavage was found. The mass was drawn out through the incision; the adherent ileum and cæcum were cautiously separated, the appendix brought into view and removed; a few denuded points on both the ileum and cæcum were stitched by Lembert sutures; the bowels irrigated from a pitcher and returned. The abdomen was cleansed without drainage. In a few days his capillary circulation was restored; his appetite had returned, and his nerve depression had all gone.

It is now three weeks since the operation. He is entirely comfortable, and whilst I have not weighed him, I am confident he has gained flesh. He is in my opinion entirely cured.

*Case 6.*—Mr. C——, aged forty-four, had for two years been suffering attacks of appendicitis. He has had, perhaps, a dozen attacks during that time. Three of these have been very severe.

He came in the interval between the attacks. Three weeks ago he was operated upon. The appendix was elongated, enveloped, hardened, and adherent. It was removed by the usual operation; no bowel stitching was necessary. His recovery has been uneventful. He will return to his home in about one week longer.

*Case 7.*—Mr. J——, aged twenty-eight. I saw him on December 27. He was ill of peritonitis. Being called with the idea of performing an operation, it not being clear that the inflammation could be materially benefited by abdominal section, I declined to operate. He improved slightly.

One month later I saw him again, when he was much improved. He came to me the middle of February, continuing to have occasional sudden attacks of pain, temperature, and gaseous distention. He was now using about two grains of morphine per day, hypodermically administered by himself. This was withdrawn gradually, but the attacks kept on at intervals of a few days or a week.

On March 27 the abdomen was opened. There was found a slender band of tissue extending from the right iliac fossa, adherent strongly to a portion of the great omentum, also slightly adherent to the cæcum. This extended straight across the pelvis to a loop of small intestine in the left iliac fossa. This looked as if it might be an attenuated appendix, for there were two slight enlargements, which were either enlarged glands or concretions of the appendix. There were evidences of a former peritonitis in the presence of adhesions, and frequently thread-like ligatures, which, by traction, made acute angles in the intestinal canal, favoring retention of the alimentary contents, gaseous as well as liquid, and solid chronic peritonitis extended everywhere. The operation consisted of a removal of this band across the pelvis, as well as the numerous adhesions and thread-like ligatures. He is recovering from the operation. The abdominal discomfort has disappeared. I think he is cured.

I have chosen this series of seven cases, not on account of any special merit in themselves or in their management; they are only representative cases. They illustrate nothing in particular, and they contribute nothing special to the literature of the subject, but they have been used: First, because they are fresh in my mind, being my most recent cases; so recent are they that four are yet in the institution, and the three that have returned to their homes have not yet resumed their duties. Secondly, because among them there were rather unique findings. Thirdly, because all of them were operated upon in the intervals between the attacks, at a time when they were feeling well. Whilst they

were not early operations, they were in one sense elective operations. This latter feature has been to me a very encouraging one.

To some, the subject of appendicitis is already a hackneyed one, but from the view-point of the writer it is yet in its formative stage. Although the whole subject is of comparatively recent origin, yet there have been reactions and counter-reactions. The pendulum of opinion continues to oscillate, because men are still thinking. When men think, beware lest changes come. When an idea is born there is a hobbyist waiting to ride it into disrepute. Friends sometimes do more harm than is possible for enemies to accomplish.

It is far from my intention to precipitate a controversy between the two dogmatic extremes. Dispute settles nothing. The scientific mind is not content with utterances, but demands verification. This is the inherent condition of the scientifically constructed mind. Facts are what are required. A modest presentation of these, as exemplified in these cases, is the object of the writer. The relation of a case undoctored, unexaggerated, will do more to establish a truth in medicine than a volume of dogmatic scolds, however vehemently and feelingly they may be presented.

The treatment is divisible into the palliative or medical on the one side, and the radical or surgical upon the other. This is the natural division. Each side should strive to understand the other, fully realizing that the other has something worthy of being understood. This, if pursued to the legitimate end, will be the basis of a complete reconciliation. Each side should strive to attain to the truth rather than a domination of its preconceived opinion. A truth hunter is preferable to a party protector. We should put aside all hastily formed ideas. We should examine our preconceived opinions and determine if they are worth defending. It is in this spirit that the writer relates the findings in this series of cases. It is now time that we should reason together.

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## ABDOMINAL PALPATION IN OBSTETRICS.

BY FREDERICK E. CLARK, M.D.,

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I have chosen this division of obstetrical examination as I believe it is the one most often neglected altogether, or if made, is so superficially and rudely conducted that it gives but little

information of existing conditions. On the other hand, if it is performed with proper caution, exactness, and a strict observance of a certain order in the examination, it can only result in much good. In fact, I would place it as the most important division of an obstetrical examination. By it the greatest amount of information of considerable value is afforded with the least possible danger and inconvenience to the patient. I must add, however, that it is only by constant and untiring practice that the requisite skill and precision can be acquired.

An obstetrical examination naturally divides itself into three main divisions:

First is the oral examination, which gives us information of previous pregnancies or labors, their character, duration, and complication; the history of the present pregnancy, together with the name, age, family history, and such other information as we desire to obtain at this time.

Second is the external examination, accomplished by means of inspection, auscultation, and palpation.

Third is the internal or vaginal examination.

It will be observed that our subject for consideration is a part of the second division, or external examination. As it is so closely allied to inspection I shall call your attention to that part of the examination on the manikin.

A few general rules that apply to all obstetrical examinations are to be observed in this division.

1. The bladder and rectum must be emptied.

2. Ascertain at the first examination whatever is necessary to be known.

3. A certain order in the examination should always be followed, so that nothing may be omitted or forgotten.

4. Modesty is always to be protected as much as possible. No unnecessary exposure should be made, and the examining physician should observe silence as to the result of the examination.

5. Train the left hand as well as the right, to make examinations.

6. The hands of the obstetrician should always be soft and warm; and in these days of antiseptics I need not accentuate the necessity of their being clean—that is, in an aseptic condition.

The object of abdominal palpation is to recognize the size, shape, and consistency of the uterine tumor, and to distinguish it from other intra-abdominal growths; to ascertain in advanced pregnancy the position and presentation of the fetus. In a very large number of cases palpation alone serves to establish the exist-

ence of pregnancy, for by it we are enabled to obtain three of the most positive signs, which are ballottement, quickening, and intermittent contraction of the uterus.

Certain conditions must be present before this method of exploration becomes available.

1. The fundus uteri must have risen above the symphysis pubis, which occurs usually after the third month of pregnancy.

2. There must not be a superabundance of fat in the abdominal wall.

3. There should be only a normal quantity of amniotic fluid. Any great excess would defeat the objects of the examination.

4. There must be complete relaxation or nearly so of the abdominal walls as well as of the uterine muscle.

5. The manipulation must be made in advanced pregnancy, during the interval of uterine contraction, and at full time, during the periods of rest between the pains. The examination is always to be made with the woman in a reclining position. The examining bed should be simple, with a hard mattress, and conveniently approached from all sides. The patient should be directed to flex the legs slightly on the abdomen, with knees well separated and the heels together. The dress should be loosened and drawn downward and the shirt upward. As I stated before, palpation is preceded by inspection. The presence of a pointed or pendulous belly would lead us to suspect that we had a contracted pelvis, especially so if in a primipara with a marked broadening and figure-of-eight shape of the uterus. The transverse position, or marked lateral obliquities of the uterus, are often very noticeable in many cases and can be determined by inspection alone.

After inspecting the abdomen it should be covered by a thin sheet. Then we proceed to palpate the abdomen by following the four well tested manipulations, and in the order given. In all four of these manipulations both hands are employed at the same time, and the entire surface of the palm is utilized. Should it be necessary to exert a uniform, gentle, but rather strong pressure upon the abdomen, the fingers should be held together; but if only a light pressure is necessary and we wish to grasp individual parts, the fingers are separated as far as possible.

The first three manipulations are made while the examiner is seated at the side of the patient to be examined and facing her head. If more convenient for the examiner he may stand up, but he should face the woman's head in either case.

*First Manipulation.*—The hands approach each other at the finger-tips, then the palms of the hands are laid across the abdo-

men of the woman. After that they are made to slide gently and uniformly upward over the entire pregnant uterus as far as the fundus, at the same time defining its position in relation to the navel and ensiform cartilage.

What does this first manipulation determine? It determines whether the longitudinal axis of the fetus is coincident with that of the uterus, or if it occupies the transverse diameter of that organ, or assumes a position intermediate between. The first is normal; the latter are abnormal. It also determines whether the head or breech lies in the fundus, the size of the child, and how far the pregnancy has advanced.

*Second Manipulation.*—Both hands, which are now extended, are moved from the ensiform cartilage to the sides of the abdomen and are laid flat one on each side of the uterus. One hand will feel a long, large cylinder which gives a firm, broad, even resistance, and this corresponds to the back of the fetus. To confirm this fact, the small parts or extremities are felt for by a rubbing motion with the other outstretched hand on the opposite side. They are felt as irregular bodies, slipping away from the hand, and changing their position from time to time.

If in this manipulation one finds much difficulty in locating the back of the fetus, it can be greatly facilitated by placing one hand flat on the median line of the abdomen and pressing the uterus gently backward. By this maneuver the liquor amnii is forced to one side, and the child's back toward the other, nearer to the abdominal walls, where it can then be felt very easily with the other hand.

Having located the back and the extremities, the portion of the fetal ellipse presenting at the superior strait is next ascertained.

*Third Manipulation.*—The right or left hand, with outstretched fingers, seize the presenting part of the child just above the pelvic inlet, between the thumb and the tip of the middle finger. In order to seize a head that has already engaged in the pelvic inlet in a primipara, it should be sought in the direction of the pelvic cavity with the tips of the thumb and middle finger. In a multipara the hand and finger-tips are held more horizontally in order to seize the head, which now stands higher in the uterus, as it does not engage in the pelvic inlet until labor actually begins. This manipulation is greatly facilitated in multiparæ by pressing against the presenting part, by placing the other hand on the fundus of the uterus. If the presenting part is hard and round, it is the head, and it can be moved about easily. The breech is much softer and more uneven. The breech very rarely

if ever engages in the superior strait until labor has actually begun.

If the presenting head or breech is felt to be uncommonly reversed, indistinct, and softer than usual, the suspicion is justified that the placenta lies in the lower uterine segment (Spencer, Leopold).

If no presenting part can be detected at the superior strait, the head should be sought for in the sides of the uterus.

This third manipulation is of great value in all cases where the presenting part, head or breech, remains either in or above the pelvic inlet. If, however, as often occurs in primiparæ during the last few weeks of pregnancy or in the course of labor, the presenting part is found already in the cavity or outlet of the pelvis, the fourth manipulation is of importance.

*Fourth Manipulation.*—For this manipulation the examiner stands at the side and facing the feet of the woman with his back toward her face. The patient is directed to take long full inspirations, following with a long expiration with the mouth open. This will relax the abdomen much more completely. The finger-tips of both hands now enter slowly and gently from above along the sides of the pelvis into its cavity. Then, if the head is low, one will feel that hard round part of the child occupying the pelvis, with the more prominent forehead on one side from the less prominent nape of the neck on the opposite side.

These four manipulations may be combined in many ways with great advantage, to meet the demand in special cases.

My plea is for a more careful and painstaking external examination. All internal examinations should be avoided as long as the external examination of the mother and child reveals a normal condition and labor proceeding naturally. The mere presence of pain at the beginning of labor does not demand an internal examination if labor is progressing properly. In fact, any unnecessary vaginal examination cannot be too strongly condemned. I believe it is almost criminal to try to assist in the early stage of dilatation by attempting to stretch the cervix with the finger. The bag of water should always be carefully preserved if liable to be prematurely ruptured. It not only subjects the woman to infection, but also stimulates too strong pain during the first stage, which should always be forbidden, for if the os is not completely dilated the lower uterine segment is forced down into the small pelvis, and the walls of the uterus at that point are incarcerated between the head and bony pelvis, thus causing swelling and inflammation of the margins of the os and increasing the possibilities of an extensive cervical laceration if not a

uterine rupture. I trust there is no physician who will deceive himself by persuading his patients and their friends that he can safely and properly hasten the progress of labor by making frequent vaginal examinations, working about the cervix, stretching and lubricating it, and finally rupturing the bag of water in order to increase or excite uterine contraction.

I would not have you think that I would discard the vaginal examination altogether, for it has its important place, but I do believe that it is too often resorted to when an external exploration would give all the information obtained by the internal examination, together with a great deal more, and not subject our patient to the possibilities of infection.

### A FEW GENERAL PRECAUTIONS.

1. The hands of the obstetrician are his most valuable instruments. Let him see to it that he places the highest value upon their careful attention.

2. Infection is almost invariably transmitted by the examining finger, but it may be occasioned by unclean instruments, bedding, clothing, and the like.

3. Pregnant, parturient, and puerperal women can be very speedily infected by a single vaginal examination.

4. Infectious material is found everywhere, and in no internal examination is the danger of infection absent. None of us should be overconfident, but on the other hand always conforming to the minutest detail of antisepsis.

5. Internal examination should be as infrequent as possible during pregnancy and labor, resorting to it only where external examination does not afford sufficient information.

6. External examination should be performed as often as possible in order to watch the progress of labor and to correct by external manipulation or version any abnormal position or presentation, thereby making delivery possible and insuring to your patient the least amount of suffering and exhaustion.

I have purposely omitted in this paper the finer points of diagnosis and differential diagnosis, that I might bring out some regular system or method to be followed in making an external examination, and to accentuate its value and great advantage over the too frequent, and I might say in many cases the only, examination made *per vaginam*.

# THE MEDICAL AGE.

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## EDITORIAL ARTICLES.

### AN ENGLISH VIEW OF APPENDICITIS.

The recent illness of the King of England has called the attention of the medical world to the views held by the transatlantic profession on the subject of appendicitis. It has been thought by many that these differ considerably from those held here, and that the main difference consisted in so-called conservatism. The publication of the Cavendish Lecture on inflammation of the vermiform appendix by Sir Frederick Treves has been a timely contribution, and has enabled the profession to decide accurately the opinion of a leading authority upon some disputed points.

Treves casts some aspersions on the validity of the McBurney point symptom. He denies that it actually indicates the precise space of the appendix. There is certain tenderness in the right iliac fossa in appendicitis, and McBurney's point roughly corresponds to the center of this; but tenderness at this spot is common in other maladies, notably in colitis. Nor does the point indicate the base of the appendix, as McBurney insists; this is one inch below McBurney's point, as discovered in fifty bodies prepared by formalin.

The greater proportion of cases of appendicitis, the author maintains, recover spontaneously. The death-rate he considers to be about five per cent, when all grades are included. Operations carried out during the acute stage are attended with considerable risk of life, probably a mortality of twenty per cent. The removal of the appendix during the quiescent stage is attended with trivial risk—in the author's own experience two deaths in over 1000 cases. An immediate operation is demanded in all ultra-acute cases. These are the cases which present evidence of severe infection. The operation in these cases often does no good, but should as a matter of routine be carried out.

Excluding the septic cases and those in which suppuration

has occurred, Treves is of opinion that it is seldom necessary to discuss an operation until the fifth day. He considers the removal of the appendix is not a panacea for every ill in the lower part of the abdomen, nor does he believe that every disturbance below the umbilicus demands the removal of this organ.

The conservatism of Treves's views will undoubtedly not commend itself to many surgeons on this side.

It is to be regretted the American hospital statistics are not accurately enough compiled to allow of greater comparison with those of Europe; for until this is done the individual opinions of American surgeons will not carry full power of conviction with them.

## EDITORIAL NOTES.

### An Air-cooling Device.

Anything that will relieve the suffering of those afflicted with disease, especially during the heated term, must be hailed as a boon. Recently Professor Moore, chief of the United States Weather Bureau, at Washington, perfected an apparatus by which the temperature of a room in summer may be lowered quite as easily as it is raised in winter, through the medium of a satisfactory furnace or steam-heating apparatus. The affair looks like a very tall stove of galvanized iron, cylindrical in shape, and with a stovepipe going out through the wall at the top. At the bottom there is another short pipe, with its mouth close to the floor, and at this opening there is a little wheel which spins around at a rapid rate. The inventor terms it a gravity machine, because its action depends upon gravity. The pipe at the top brings the warm air in from outside, which is dried, washed, and partly cooled in the upper part of the apparatus. Descending into the lower part it is there thoroughly cooled, and then passes out into the room. Moore claims that the whole apparatus is dependent upon the difference in specific gravity between the warm air and the cool air. Such a device cannot but prove an invaluable one in keeping hospital wards and sick-rooms comfortable during the summer and making the burden of the sick less heavy.

### The Value of Human Life.

What value can be placed upon a human life is a question that the law courts are being continually asked to pass upon. A writer in the May number of the *Popular Science Monthly* has made,

after a careful study of awards made by juries in a large number of suits for damages, the following conclusions:

1. The pecuniary value of life is subject to the same economic laws as are applied to the more vulgar commodities.

2. In courts of law, the measure of an individual's productiveness, which is the measure of his value, receives the most careful scrutiny; therefore the decisions of such courts, where existing statutes permit, are trustworthy in determining an individual's value to his family.

3. The pecuniary value of a life to its relatives represents its pecuniary value to society.

4. Damages given for wrongful death are such that they can be represented by an average in different age groups, with only narrow limits of probable error.

5. The relation of these age-groups values, one to the other, is supported by common observation and statistical reasoning.

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## Disease the Dread of War.

The ultimate statistics of the Boer war show, as in all previous wars, that sickness is a much greater danger than the chance of being killed in action. While 5774 were killed in action and 2018 died of wounds, the large number of 13,250 died of disease. This goes to prove that camp hygiene is still far from being a perfect science, and that gunpowder does not begin to compare with water contamination as an instrument of destruction. It may be a long time before there is another war, but if such should come, it is to be hoped that sanitary science shall still further have diminished the dangers of camp life.

# ITEMS AND NOTES.

YELLOW FEVER has been epidemic for several months in Vera Cruz.

PROFESSOR HOCHENEGG has been placed in charge of the Third Surgical Clinic of the Vienna University.

THE Board of Health of New York City has appointed physicians to make daily examinations of schoolchildren.

RECENTLY a Scotch bank-note was examined, and upon it were found 30,000 microbes in the space a sixpence would occupy.

DR. W. OSLER, of Boston, has been honored by Trinity University of Toronto with the honorary degree of Doctor of Civil Law.

THE Hawaiian Board of Health is about to begin a series of experiments to determine the value of *x*-rays in the treatment of leprosy.

THE University of Notre Dame, Ind., conferred the Laetare Medal, the highest honor in its gift, on Dr. Jolin B. Murphy, June 18.

DR. K. EMMETT, professor of forensic medicine and toxicology, of Bern, Switzerland, recently celebrated his ninetieth birthday.

OUT of 129 candidates for appointment as assistant surgeon in the army, only 18 passed the examinations which were recently held.

THE governor of Maryland has appointed the following commission on tuberculosis: Prof. William Osler, Lillian Welch, and W. F. Hines.

IT has been decided by the American Missionary Society in China to establish a medical college for men, in connection with the society's hospital in Canton.

DURING the past year there was only one death from hydrophobia in Prussia, owing to the strict enforcement of the regulations in regard to the muzzling of dogs.

IN various German schools courses of treatment for the cure of stuttering children have been instituted. It is estimated that 1½ per cent of the children attending German schools stutter.

According to the report of the United States Marine Hospital Service 58,381 seamen of the merchant marine were treated, and 1359 operations requiring anesthetics were performed, during the past year.

Jane Toppan, the nurse of Lowell, Mass., has confessed to the killing, by poison, of thirty-one patients, whom she had nursed. She has been pronounced insane, and has been sent to the asylum for life.

At the commencement exercises of Harvard University, which were held June 25, the honorary degree of A.M. was conferred upon Dr. Walter Read, surgeon of the U. S. Army, whose work upon yellow fever is so well known.

Professor Thilenius, of Breslau University, declares that in Central Europe there was a race of pigmies down to within 1000 years of our own times. Healthy and well proportioned individuals of both sexes, measuring not more than 4 feet 5 inches in height, were by no means rare.—*Exchange.*

From the experiments which have been conducted by Dr. Reid Hunt, of Johns Hopkins Hospital, he concludes that wood alcohol, which has been the cause of so much blindness in the last two years, is itself a poison, and its poisonous properties are not due to the impurities present in it, as is often claimed.

President Remsen, of Johns Hopkins University, has announced that the $1,000,000 endowment fund has been completed. This money was contributed by the people of the State of Maryland. A magnificent site has been donated in the northern suburbs of Baltimore, including a public park and a grand boulevard, and thither the university will be removed from its present location in the city.

The United States Senate has agreed to an amendment to the general deficiency bill which provides for an appropriation of $45,000 to cover all unpaid expenses incurred during the last illness of President McKinley at Buffalo, including compensation for the physicians in attendance. The bill provides that no part of the sum appropriated shall be paid to any person in the employ of the government. Under this provision neither Surgeon-General Rixey of the navy nor Dr. Eugene Wasdin of the U. S. Marine Hospital Service will receive any extra compensation for their services.

The Swedish consul at Bombay in a recent report says that "because of their fear of sanitary inspection and modern methods

of preventing and curing disease, the natives of India in vast numbers are the victims of plague. In consequence of the hatred and fear of hospitals and medical men the population of Bombay has decreased 40,000 in the last ten years, while the increase in the whole of India in the same time was about fifteen per cent. Bombay now has 760,000 people. The hospital and general medical service in India are of the best and do much good in the affected districts in spite of the prejudice which prevails against such things. The plague is generally fatal without the most skilful medical attention. The natives in their ignorance seek only to be left to die in peace. The ancient traditions of the country are extremely difficult, almost impossible, to eradicate."

In the course of an article on food adulteration, Dr. de Lavarenne, editor of *La Presse Médicale*, refers to the number of things in which the use of saccharin is being extended. It is not only used to sweeten beer, but it is now also employed in the manufacture of syrups, jams, lemonades, wines (especially champagne), cider, brandy, pastry, and chocolates. Special substances of this nature are on the market for sweetening cider and brandy. Among these sucramine may be mentioned, which is said to be seven hundred times sweeter than cane-sugar. Other products of the same kind are sugar extract (made in Switzerland), cannabin, etc. All these names are misleading, for the substances are only sugars in name, being coal-tar derivations. They are not foods. Moreover, their long-continued use may gravely affect the digestive functions. Dulcin, another sweeting body, which has been used as a substitute for saccharin, was given to a dog at the rate of one grain a day. The animal died in three weeks.—*American Medicine.*

A modern, splendidly equipped hospital for tubercular patients is to be given to the State of Colorado by Laurance C. Phipps, in memory of his mother, Mrs. Agnes Phipps. The building of the institution will be begun in the early fall. The property consists of 160 acres, 40 to be used for the present buildings, and the remaining 120 will be held by Mr. Phipps at the disposal of the sanitarium whenever it is needed. The first plans contemplate an outlay of $250,000. The medical department will be made up of one or more resident physicians, and prominent ones of other cities. The Denver staff will be Drs. Thomas J. Gallagher, George W. Holden, William H. Bergtold, and Carrol E. Edson. The institution is to be called the Agnes Memorial Sanatorium, and will be arranged on modern sanitary

ideas, with one large administration building and groups of cottages. One of its features will be an elaborately equipped laboratory for the conducting of investigations and study of the disease. The institution will not be a purely charitable one, for patients will be expected to pay when possible, and preference will be given to those from western Pennsylvania.—*Journal of the American Medical Association.*

M. Neymarck, according to the New York *Sun,* has lately examined various economic, financial, and social causes that influence the birth-rate. Some of his results are summarized in what follows: He believes, in the first place, that the birth-rate will always diminish with the increase of "civilization," with "progress," in a country. In Germany the birth-rate was 42 per 1000 in 1875; in 1895 it was 36. In England the rate diminished from 36 to 29 in the same period. In France it fell from 26 to 25.2. The rate of diminution is, therefore, least in France. Some of the economical causes influencing the birth-rate are: First, the increased cost of living, or, more accurately, the increased scale of comfort. As a matter of fact, it is not certain that the cost of life has increased, but our requirements have become greater. Secondly, the desire to insure increased comfort for oneself and one's family. "The father of a family limits his offspring in proportion to his egoism." Thirdly, the desire to establish one's children well in life is proved by curious statistics. In France there were 281,353 heritages in the direct line to divide 3469 millions of francs; of these 170,819 heritages, amounting to 2131 millions, were allotted to one or two children; 75,961, amounting to 926 millions, were divided between three or four children; and 34,673, amounting to 412 millions, were divided between five or more children. Fourthly, the reduction of the rate of interests runs parallel to the decrease in birth-rate. In France the birth-rate was, in 1872, 27.8 per 1000; in 1880, 25.6; in 1890, 22.9; in 1900, 22.4. The 3 per cents produced, in 1871, about 5½ per cent on the investment. Fifthly, the increase of taxes and the indirect effect of the obligations of military service must also be considered. Sixthly, the entrance of women into competition with men as wage-earners. In France there are now 3,353,831 women who are thinking less of maternity, as they are more or less interested in their professions or trades. There are 3,861,599 single women, 1,808,838 families without children, 3,000,000 divorced or widowed persons without children—nearly 6,000,000 persons in all these categories.

# NEW PUBLICATIONS.

## PRACTICAL MEDICINE SERIES.

The sixth volume of this series is upon the subject of General Medicine, and is specially edited by Dr. Billings. The subjects of typhoid fever, yellow fever, and diseases of the gastrointestinal tract have been presented in all their newest phases, and an excellent *résumé* has been given of essential progress in all other directions of general medicine. This series is undoubtedly a useful addition to the physician's literary resources.

The Practical Medicine Series of Year-books. Volume VI. Edited by Frank Billings, M.S., M.D. Chicago, Ill.: The Year-book Publishers.

## THE UNKNOWN GOD.

This charmingly written little book contains the reflections of a thoughtful man upon the loftiest subject of a man's thoughts. It is a reverent and intellectual effort to tell what the author thinks about "Infinite and Eternal Energy, from which all things proceed," and the influence this has had on man during his long career on earth. This brochure will amply repay the reader's perusal.

The Unknown God. An Essay by Sir Henry Thompson, Bart., F.R.C.S., M.B. Lond., etc. New York: Frederick Warne & Co.

## DISEASES OF CHILDREN.

This manual is written from a standpoint somewhat different to those of the regular school. It is especially rich in its therapeutics section, and will be consulted with interest and not without occasional profit.

The Electric Practice in Diseases of Children. For Students and Practitioners. Edited by William Nelson, M.D. Cincinnati, O.: The Scudder Brothers Co.

# THE PROGRESS OF MEDICAL SCIENCE.

## SURGERY.

### Laceration of the Liver.

J. L. Wiggins (*American Journal of Surgery and Gynecology*, June, 1902) reaches the following conclusions:

1. That delayed, bloody vomit or stool, in obscure abdominal injuries, is indicative of rupture of hepatic substance without laceration of its fibrous or serous coverings.

2. That no method of suturing can be entirely satisfactory: (*a*) because if laceration is superficial it is not required; (*b*) if laceration is deep the dead space cannot be obliterated; as a consequence there is an accumulation of arterial and venous blood mixed with bile from this vascular organ, which may become infected, forming an abscess; or, if accumulation is excessive, this may break the line of suture and tear protective adhesions.

3. That suture material, to be of any service, must be large; to control hemorrhage it must exert pressure. In the first instance many lobules must be destroyed, and interference with venous and arterial branches and secreting radicles. In the second, a tightly drawn suture would cut through friable structure or cause tissue necrosis.

4. That all sealing materials, with the possible exception of the actual cautery, are not plausible in theory or warranted by results.

5. That the best results accrue from drainage by the most direct route and isolating damaged structures.

6. That immediate operation, irrespective of degree of shock, is the only rational method of treatment, and the only one based upon reported cases which has yielded good results.

### White Swelling of the Knee.

Lucas (*Medical Press*, June 4, 1902) read a paper before the Paris Académie de Médecine on the treatment of white swelling of the knee-joint. He said that the prevailing treatment of the present day for tuberculous disease of the articulations is prolonged immobility. That method gives only deplorable results, and in almost all cases resection of the knee should be substi-

tuted for such treatment. He has practiced that operation 113 times, on subjects varying from fifteen to forty years of age, without having once a fatal termination. The operations consequently might be considered as the best in the interest of the patient each time that the affection could be regarded as possible to be cured by ankylosis. There is, however, one condition to be borne in mind, and that is the total extirpation of the diseased parts, otherwise fistulæ will result. As to the shortening of the limb produced by the resection, far from being a misfortune it constitutes a happy condition for the patient, as it is much easier for him to walk with a shortened straight leg than with an ankylosed limb which has its length preserved.

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### Prolapsed Kidney.

A. H. Gohlet (*International Medical Magazine*, June, 1902) says that prolapse of the kidney occurs much more frequently than is generally supposed, and that it gives rise to symptoms which are often misleading, causing it to be overlooked; that it is a more serious condition than is realized, causing as it does interference with the circulation and function of the kidney. It often leads to serious structural disease of the organ. It interferes chiefly with the return circulation through the ovarian vein. It produces and maintains pelvic congestion, and is therefore a cause of disease of the female pelvic organs. Minor degrees of prolapse become inevitably exaggerated in time. The writer says that all forms of artificial support, such as belts and pads, are not only of no permanent benefit, but on the contrary are positively harmful. The kidney once prolapsed will remain so, unless fixed by operation. The writer maintains that the operation is without risk and should be instituted before the kidney becomes seriously disabled. He claims that when done under proper conditions the results of the operation are satisfactory.

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### The Diagnosis and Treatment of Malignant Stricture of the Esophagus.

Among the earlier symptoms of malignant stricture of the esophagus, according to C. J. Symonds (*Medical Press*, June 25, 1902), there may be nausea, repulsion for food, etc., which are often taken for ordinary dyspepsia. In the central portion of the esophagus pain alone may be present. The passage of a

bougie is the only way to clear up the case. Symonds is disposed to think that the employment of this instrument has excited in the past unnecessary apprehension, but provided a large bougie be not used, and provided also that no force be employed, there is practically no danger. In peculiarly tolerant individuals the possibility of entering the trachea must be remembered, and before introducing food it is well to examine the condition of the parts by the aid of the laryngoscope. Extra-esophageal disease rarely gives rise to any serious dysphagia. "Spasmodic" obstruction, apart from the "hysterical" form, has always, when marked, an organic cause, and it would be better to speak of such cases as "intermittent" dysphagia. Symonds points out that both diagnosis and treatment should be considered with respect to the occurrence of the disease in three special districts, viz., the upper part of the esophagus, the central part, and the cardiac end. In the first it may be stated that all organic obstruction is due to malignant disease, which in this situation has a special tendency to cicatrize rapidly. In the central part sarcoma or a myoma, both rare diseases, may cause fatal obstruction. In this situation a pouch may give rise to some difficulty in diagnosis, but can generally be excluded. In the lower end alone simple stenosis may occur, and in this situation it may also be difficult to distinguish the disease of the esophagus from a cancer of the stomach which has caused great reduction in the size of the cavity (leather-bottle stomach).

In the matter of treatment the writer considers that a patient may be left alone so long as he can swallow fluids and semisolids well, and so long as a small bougie (No. 12 catheter gauge) can be passed. If, however, the dysphagia increases, even though a bougie can be passed, then a tube should be inserted or gastrostomy performed. If, again, a bougie cannot be passed, or only with difficulty, then the same course should be followed, as complete closure may occur at any time; and lastly, if the patient cannot swallow and a bougie cannot be passed, then immediate mechanical treatment is required. The writer says in reference to the passage of bougies with a view to dilating the stricture that it is injurious, in that it irritates the parts and leads to an increase of obstruction. The treatment, like the diagnosis, must be considered according to the position of the obstruction. In cricoid obstruction Symonds found that a short tube is badly tolerated; the long rubber tube, however, gives excellent results. If even this be badly tolerated gastrostomy must be performed, and this as early as possible. In disease of the central portion the short tube is very serviceable in a fair number of cases. When

it acted well it was superior to any other method. If pulmonary symptoms arise it is necessary to replace it by the long feeding tube. In disease of the cardiac orifice tubage is so uncertain that gastrostomy is the best method of treatment when dysphagia becomes serious.

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## MEDICINE.

### The Etiology of Leprosy: "Commensal Communication."

At the Royal Medical and Chirurgical Society Mr. Jonathan Hutchinson (*Journal of the American Medical Association*, June 14, 1902) made a communication on this subject based on the experiences gained in his recent tour in South Africa. Among other conclusions Mr. Hutchinson has arrived at the following:

1. Leprosy was almost if not absolutely unknown in South Africa before the Dutch occupation of the Cape and their introduction of Malays from Java to establish a fish factory at Cape Town.

2. Salt fish and rice was the staple food of the Dutch farmers and their Hottentot slaves at the time leprosy was first observed, in 1756. The disease first spread around Cape Town, then over South Africa.

3. Leprosy prevails very slightly in towns (unlike highly infectious maladies), but affects chiefly agricultural laborers. Though widely spread, the disease is unequally distributed—dotted about among the mining and agricultural population of Cape Colony, who use very largely badly-cured salt fish.

4. In the Kaffir kraals of Natal the disease is communicated from person to person by eating food from a leper's hands contaminated by food containing the bacillus. The disease is not contagious in the ordinary sense of the term, but only in this special manner, which Mr. Hutchinson proposes to call "commensal communication."

The author thinks that the two hypotheses of fish production and commensal communication together explain the difficulties hitherto felt in regard to leprosy, such as its not spreading in civilized communities, its irregularity and uncertainty even among the most careless, the frequency with which young children suffered, the universal but varying disproportion of the sexes, and the scattered distribution without, as in South Africa, any foci of great prevalence. The facts in favor of the view that the bacillus is received through the stomach are very strong. The first symptoms are those of a blood disease. There is never

a primary sore or other indication of local infection. The earliest phenomena, whether of the skin or nervous system, are as a rule bilateral and imply blood communication. It is impossible to believe in communication by the breath, for attendants in leper houses and others in constant and close communication with lepers never take the disease. Similarly, contagion through the skin is incredible. Husband and wife rarely suffer together; many inoculation experiments have failed. Such contamination of food as described could only occur under conditions of extreme carelessness in feeding. Hence, among the cleanly communities of Europe and America, the disease is not communicated.

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### Dilution Experiments in Diagnosing Renal Functions.

The determination of the freezing-point depression of urine, as described by Korangi, and the phloridzin-sugar estimation (Casper and Richter) both contribute well toward forming an opinion as to the functional capability of the "second" kidney, before the first is removed. G. V. Illyes and G. Kovesi (*Berl. Klin. Woch.*, April 14, 1902) consider that some better methods must be combined with these, and therefore deal with the so-called dilution experiments. This depends on the examination of the urine as collected by ureteral catheterization, and especially of the changes in the urine after the taking in of large quantities of fluid. They report a series of experiments. The patients were carefully examined, the urine tested in the ordinary way; the reaction was determined, and was found to vary between 0.58° and 0.61°. The ureteral catheters were then passed, and allowed to remain in the organs for a few hours. The urine from each kidney, thus collected, was examined for quantity, specific gravity, reaction, sodium chloride value, nitrogen value, and sugar (phloridzin). The patients then were given 1.8 liters of Salvator water, and the urine from each kidney examined in the same way. With regard to the prolonged ureteral catheterization, they have never seen any harm come of it.

The authors come to the following conclusions: (1) To obtain correct information as to the functional capability of each kidney, it is necessary to collect the secretion by a ureteral catheter remaining in place for a long time. (2) The diagnosis of renal function is rendered more exact by the introduction of the "dilution" experiment, which is all the more called for since no method proposed up to the present is absolutely reliable. (3) The results of the dilution examination in surgical diseases of

the kidney can be classed thus: (*a*) the delay in the appearance of the dilution; (*b*) the difference in the quantity of urine, secreted in the same space of time; and (*c*) the relative constancy of molecular concentration (which is not influenced by a larger intake of fluid, and is evidenced by a limited change of the degree of the freezing-point depression) points to a lowering of the function of the kidney.

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Coexistence of Acute Rheumatism and Typhoid Fever.

Pel (*British Medical Journal,* June 17, 1902) considers that the majority of cases of enteric fever, which have joint affections as coexisting changes or complications, show no sign in common with true rheumatic disease. The joint changes in question may be typhoid synovitis (arthrotyphus), secondary suppuration (due to pyogenic cocci), and pseudorheumatism. True acute rheumatism rarely attacks a patient who is at the same time ill with enteric fever. Pel reports such a case. The patient, a man of forty-eight years, was taken ill with rheumatic pain in the limbs on October 12, 1901. The first joint affected was the right hip; later the right wrist- and left elbow-joints became swollen and painful. There was fever, sweating, and increased thirst. Other joints became affected during the following days. The heart was not dilated; the first sound at the apex was not clear, but there were no murmurs. There was evident arterial sclerosis. Urine, faint cloud of albumin. The signs disappeared in the course of a few days, and patient felt well during the first half of November. He then began to complain afresh of headache, loss of appetite, and malaise. The temperature rose gradually. There was some catarrh of the fauces, the tongue was moist and coated, all joints free. On the 16th the splenic dulness was found to be enlarged. On the 19th rose spots on the abdomen and chest. On the 20th diazo-reaction positive, Widal negative. On the 22d diffuse bronchitis. On the 23d acute polyarthritis (both elbows and both wrists). Pel records this as relapse of acute rheumatism in second week of enteric fever. On the 25th and 26th the joint swelling and pain receded (patient had received sodium salicylate), and on the 28th the temperature fell to the normal line. No further symptoms occurred, and the patient was discharged well in January. Pel gives his reasons for definitely regarding the multiple arthritis as rheumatic, and also discusses the question of negative Widal's reaction in enteric fever.

### The Etiology of Acute Articular Rheumatism.

In a paper read before the Section on Practice at the recent meeting of the American Medical Association, G. W. Webster offered the following conclusions:

(1) Many organisms produce arthritis. (2) Probably all cases of acute articular rheumatism are due to infection. (3) Probably all organisms known to cause either acute articular rheumatism or other forms of arthritis also give rise to other pathologic conditions as well. (4) It would thus seem to be not merely a local infection or inflammation, but a general infection, the commonest seat of the principal lesion being the joints, but also involving the heart, both endocardium, pericardium, and muscle, occasionally the meninges and other structures, and caused by a diplococcus circulating freely in the blood. The diplococcus seems to be merely a germ capable of causing a widespread inflammation, and the joints are included in its sphere of action; just as in pneumonia we may have a general infection with local manifestations or inflammatory reaction in the meninges, the pleura, the endocardium, pericardium, postnasal space, peritoneum, lymphatics, and lungs, the latter being probably the usual site of the localizing inflammation. (5) It is quite possible that there is some hereditary diathetic or constitutional peculiarity, the nature of which is completely unknown to us, which may favor the infections in general, and possibly that of rheumatic infection in particular. (6) That there may be varying degrees of susceptibility, depending upon exhaustion, depressing influences, as cold and the like, seems reasonable. These are the occasions and not causes. They favor, but do not cause. (7) That susceptibility varies greatly there can be no doubt. Whether this depends upon alkali tension has not yet been demonstrated, but seems plausible on the ground of variation in the bactericidal action of the blood. This may explain the value of alkalies in the treatment of rheumatic affections.

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### Causes and Varieties of Chronic Interstitial Pancreatitis.

Opie (*American Journal of the Medical Sciences*, May, 1902) points out that chronic inflammatory changes in the pancreas are usually secondary either to changes in the neighboring organs or to irritants or toxic substances reaching the gland through the ducts, lymphatics, or blood-vessels, which latter by changes in themselves influencing blood supply and nutrition may operate

as a cause, while obstruction of the duct, whether internally from calculi or externally from pressure, produces the same effects. Males are affected more frequently than females in the proportion of about 3 to 2, over two-thirds of the cases occurring between forty and sixty years of age. Two types are distinguishable: (1) interlobular, where the newly formed connective tissue is between the lobules, the gland being hard and nodular; and (2) interacinar, where the process invades the lobules, separating the acini and implicating the islands of Langerhans, causing the gland to be tough rather than hard. Calculi in the duct of Wirsung or in the common bile-duct, and carcinoma invading or compressing the pancreas, are the commonest causes of obstruction of its ducts, and cases are reported of such conditions producing chronic interstitial pancreatitis. Ascending infections from the gastrointestinal tract may affect the ducts, the more especially if they are themselves already in a favorable state of bacterial invasion through retained secretion from pressure, and in such cases persistent vomiting is a frequently associated condition. In those conditions where the lesion is referable either to alterations in the blood-vessels or to toxic substances brought thereby to the gland, arterial sclerosis and chronic passive congestion are among the former, while tuberculosis, syphilis, and alcohol are most notable among the latter. A chronic diffuse pancreatitis chiefly affecting the interstitial tissue of the gland is an occasional accompaniment of general or local tuberculosis, but alcohol is a more frequent cause, and cases are mentioned bearing upon the association of cirrhosis of the liver with chronic pancreatitis, the two lesions coexisting in about one-fourth of those cases recorded, thus probably explaining the occasional occurrence of diabetes in liver diseases. The interacinar type is usually accompanied by diabetes, and when such is not the case the lesion is found to be very slight in degree, and the islands of Langerhans but little implicated, while in the interlobular variety diabetes occurs only when the lesion is far advanced, and commences to invade the lobular tissue. Proliferation of the interacinar tissue is sometimes coexistent with atrophic hepatic cirrhosis, and a similar lesion accompanies hyaline degeneration of the islands of Langerhans, which latter condition is so generally associated with diabetes.

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### Experiments on Immunity.

Ainley Walker (*Journal of Pathology and Bacteriology*, March, 1902) records a study of the behavior of bacteria grown in their own immune serum, and of the changes in the serum

produced by such growths. According to the Ehrlich doctrine, the immune body is produced by the action of certain atom groups of the bacterial body; in other words, these groups are attractive to certain cell constituents, and by their action set them free as an immune substance. If, therefore, bacteria be grown in their own immune serum, the bacterial atom groups referred to should show affinity for the immune body and be stimulated to multiply, eventually being liberated as an anti-immune body. This actually occurs, and a bacterium may be immunized in this way against its immune serum, thereby becoming more virulent and less agglutinable. Similarly the serum in which its own bacillus has been grown is rendered less agglutinative and less protective against that bacillus. The atom groups which cause the production of the immune body by their action on cells is the basis of bacterial virulence and of chemiotactic influence. The immune body is not identical in different animals for the same bacterium, but exhibits a specialism to the species.

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## THERAPEUTICS.

### The Feeding of Children in the Second Year.

At a recent meeting of the New York Academy of Medicine. T. S. Southworth (*Pediatrics*, June 15, 1902) read a paper on this subject. He said that the real change from breast to other food nowadays occurs considerably before the end of the first year. If it can be avoided weaning should not be attempted during the summer, and if the need for such change arises from the failing quantity of breast milk, the infant can often be carried over the hot weather by supplementing the breast feeding by the use of the bottle. The first addition to the food should be a gruel made from oatmeal, barley, or wheat. If diarrhea, eczema, or intestinal indigestion is present oatmeal is undesirable, but ordinarily it is to be preferred. It is most important that whatever cereal is selected should be very thoroughly cooked, strained, and salted, and should be served with sugar and milk or cream. Cow's milk should be the basis of the child's food during the second year, and the bottle should be continued, because in this way the child would take more milk than from a cup. Many people seem to think that the ordinary size of nursing bottle should be used; yet it is possible to find in the market nursing bottles holding twelve ounces, and these should be used during the second year.

Dr. Southworth outlined the following general plan of feeding as appropriate to children of this age: 7.30 A.M., breakfast, including a bottle of milk; 11 A.M., bottle of milk with a crust of stale bread or a piece of zwieback; 2 P.M., dinner, with less milk as other food is increased; 6 P.M., supper, including a bottle of milk; 10 P.M., a bottle of milk. About the middle of the second year the bottle should be replaced by the cup except at the ten o'clock feeding at night. Soft-boiled eggs might be allowed every second day for breakfast, and the diet should be varied by mixing bread crumbs with egg, or with milk, or by giving crackers, broths, and meat juices. Orange juice, if carefully freed from the pulp, and two or three prunes, freed from the skin, are useful additions to the diet. A mealy potato, baked, should be the first vegetable. Stewed celery and tender boiled onions might be given toward the end of the second year. Beef juice, expressed from lightly cooked steak, Dr. Southworth considers very useful, even before the end of the first year, particularly in anemic babies. From one to three ounces should be given daily, but in children of nervous, rheumatic, or gouty parents, beef juice and broths must be used with caution. Toward the middle of the second year the fine white meat of poultry and scraped steak or mutton-chop may be given. These young children should not be allowed to come to the family table, for the longer they can be kept from desserts and sweets generally the better. It is necessary to specifically warn the ignorant against giving their children tea, coffee, and beer.

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### Treatment of Urethral Stricture by Electrolysis.

R. Newman (*Journal of Advanced Therapeutics,* January, 1902) states that during the past thirty years he has treated by electrolysis no fewer than 2000 cases of urethral stricture, with results which lead him to consider it as the method to be adopted *par excellence*. His own experience is further supported by records of at least 15,000 cases in the practice of others. The armamentarium needed is as follows: A good battery, the cells of which can be taken up one by one without any breaks in the circuit; a milliamperemeter; suitable electrodes. A correct and exact diagnosis is of first importance. None but organic strictures are suitable, and there should not be other disease of the bladder, prostate, or urethra. Any acute disease—inflammation, hemorrhage, or discharge—is a contraindication to electrolysis. In treating any particular case, the author first carefully explores

the urethra to ascertain the exact size and situation of the trouble. He then selects an electrode about two numbers (French) larger than the stricture, and having seen that the battery is at zero, he connects the positive pole with an indifferent electrode conveniently fixed to the patient, the negative pole being attached to the electrode bougie, which is then carefully passed down to the beginning of the stricture. The current is then gradually turned on, avoiding any production of pain in the patient; about five milliamperes is usually borne without any discomfort, and this strength should seldom be exceeded, the end of the electrode being gently pressed against the stricture, so as to follow the line of the urethra. In from five to fifteen minutes the electrode will have passed completely through the stricture, and may be passed on into the bladder. It should then be gently withdrawn, the current collector being gently returned to zero as soon as the end of the electrode has repassed the stricture. The patient will probably feel immediate relief, and the operation need not in any way interfere with his ordinary avocations. The séances should be repeated at intervals of about a week, until a full-sized electrode can be passed without the least force or discomfort.

In the author's experience the treatment causes no pain or inconvenience, is devoid of danger, whether from hemorrhage, fever, or other unpleasant complications. It relieves at once, without necessitating any irksome restraint of the patient, and, most important of all, no relapse takes place. Any failures can be traced to either (1) the operator himself, (2) a wrong diagnosis, (3) faulty instruments, (4) meddlesome interference with the patient. It only needs a clear head, steady hand, sensitive fingers, patience, and a small amount of skill in genito-urinary practice.

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### The Therapeutic Uses of Suprarenal Gland in Diseases of the Heart and Lungs.

S. Floersheim (*Medical Record*, June 28, 1902) read a paper recently on this subject before the New York County Medical Association. He said that his first paper on this subject was published in 1900, and his experience in this field embraces about 500 cases. He recommends that the dry powdered extract be given by the mouth in doses of three grains, with instructions that it be chewed and swallowed without water. It should be dispensed dry in capsules, and the patient should chew these capsules. According to his experience, this extract acts directly on the heart muscle, and not through the nervous system. This

remedy is indicated in all forms of heart disease in which the pulse is weak, soft, and rapid. In almost every case a marked beneficial effect is noted within five minutes, and it usually lasts for a number of hours. Its characteristic stimulating effect is noted even near the fatal termination of cases of organic heart disease, and after strychnine and other well known heart tonics have failed. In those cases of organic heart disease in which there is full compensation the administration of the remedy does no harm, but is not followed by any appreciable effect. The remedy is exceedingly safe in its action, and is the most powerful heart stimulant known to him. In mitral stenosis it has no effect on the murmur, although the beneficial action on the heart is marked. In aortic regurgitation the murmur often becomes more clearly defined and more localized. In aortic stenosis, with failing action of the heart, the murmur is sometimes diminished in intensity. Where there are several murmurs, so that they are confused with the heart sounds, the administration of the suprarenal extract often brings these murmurs out more clearly. In predominant hypertrophy, with a full, regular, and strong pulse, the extract apparently has no effect.

Dr. Floersheim said that he had been the first to publish an account of the use of the suprarenal extract in diseases of the lower air-passages. He has found it exceedingly useful in many cases of acute bronchitis, but its action is only temporary in chronic bronchitis. Cases of spasmodic asthma due to nervous causes are not benefited. In forty-eight cases of hemoptysis in which he has used it benefit has been noticed. The extract has succeeded in controlling hemorrhage from the lungs when most other remedies had failed. He has used it in twenty-six cases of acute pulmonary tuberculosis. It has no effect, of course, on the tuberculous process, but is administered for its action on hemoptysis and on the expectoration.

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### The Use of Suprarenal Gland in Hay-fever.

From his experiences with suprarenal extract in the treatment of hay-fever, J. P. Clark (*Boston Medical and Surgical Journal,* June 19, 1902) has drawn the following conclusions: (1) In simple vasomotor rhinitis, with no discoverable local abnormality and no general dyscrasia, suprarenal extract used locally appears to give favorable results in a large proportion of cases, either entirely preventing or much diminishing the severity of the symptoms; (2) in cases of hay-fever in which there is

some local abnormality in the nose, the suprarenal extract does not act favorably until such abnormal condition is remedied, and then it may be found to be unnecessary; (3) in cases in which there is a rheumatic or allied dyscrasia, the suprarenal is liable to cause some reaction at first, and in any event does not act so favorably as in uncomplicated cases.

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## RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

### Nasal Route of Infection in Meningitis.

In a Bordeaux thesis Dr. Magunna studies the history of the question, the different relations of contiguity and continuity existing between the cranial cavity and the nasal and retronasal cavities, with the progress of infecting agents from the nasal and retronasal regions to the meninges. The passage of these agents from the nose to the meninges is by the direct route (cavernous sinus through the sphenoidal sinus, veins of the middle turbinated bone, lymphatic plexus of Axel and Retzius), or the indirect route through the Eustachian tube and middle ear.

M. Magunna insists more particularly upon the endocranial complications passing from the nose directly to the encephalon. These complications follow five different paths:

1. The direct route, with destruction of the osseous vault.
2. Thrombosis of the cavernous sinus.
3. Embolism of the veins of the middle turbinated bone.
4. The lymphatic route.
5. The fifth constitutes the indirect route through the ear.

The author refers to the researches of modern authors concerning the septicity of the nasal fossæ and of the nasopharynx, the frequency of empyema of the accessory cavities, and the presence of certain microbes in the nasal secretions in the course of meningitis.

He reports a number of cases of meningitis consecutive to the penetration of morbid germs by each of the paths indicated. He has himself practiced inoculations by excoriation of the nasal mucous membrane in guinea-pigs, and produced six fatal cases of meningitis out of twenty inoculated animals. His last case is of a patient suffering from an old unsuspected maxillary sinusitis, in whom a posterior tamponing of the nasal fossæ produced

an acute otitis media, followed very speedily by meningitis and death.

His principal conclusions are: Meningitis may derive its origin from a lesion of the nasal cavities. In a case of suspected meningitis the physician should inform himself of the condition of the nasal fossæ. At the autopsy one should seek to find the point of origin of the meningeal infection, and all observations which do not give the details of the condition of the nasal and retronasal cavities should be regarded as incomplete.—*Revue Hebdomadaire de Laryngologie,* etc.

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### Cotton-wool Sandwiches as a Protective Against Sharp Objects Swallowed.

At a recent meeting of the Section of Surgery of the Royal Academy of Medicine in Ireland, Mr. G. Jameson Johnston, according to the *British Medical Journal* of March 29, 1902, related the extraordinary case of a man who, while swimming, swallowed his metallic plate of false teeth. A slapping on the back, with the view of dislodging the errant teeth, led to dyspnea. On his arrival at the hospital a probang was used, and the denture passed on into the stomach, where it set up severe pains at the pyloric end, which continued for some days. Mr. Johnston then hit upon the expedient of feeding the patient with sandwiches, each containing a thin layer of cotton. A week after the man's admission an aperient of licorice powder brought away the denture, encased in cotton. One gentleman expressed the fear that cotton so administered might induce obstruction. Well, so might the denture. But the cotton, as the events showed, might bring away the dangerous pointed plate in harmless form; and if it didn't, one laparotomy would do for both plate and cotton.

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## OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

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### Diphtheria of the Conjunctiva.

Mr. Sydney Stephenson (*Archives of Ophthalmology,* May, 1902) communicated notes of forty-three cases of conjunctivitis in which diphtheria bacilli were found. The cases formed 1.25

per cent of the ophthalmic patients seen in two hospitals for children. The average age was 26.7 months, but 88 per cent occurred in children under four years. The cases chiefly occurred during the first four months of the year, and often there was a history of exposure to diphtheritic infection; 40 per cent of the children were bodily ill, although the series includes but three examples of really severe diphtheria of the conjunctiva. In five cases there was albuminuria, while in two the knee-jerks were absent. Diphtheria of the fauces or nose preceded the conjunctival affection once, was associated with it twice, and followed it once. Diphtheria of the skin was present in seven children. The preauricular and other glands were generally enlarged. The malady was unilateral in about three-fourths of the cases. Death occurred once. The infection was "pure" in 13.95 per cent, and "mixed" in 86.04 per cent of the cases.

As regards treatment, Mr. Stephenson advises liberal and early doses of antitoxin with 1-in-5000 solution of corrosive sublimate applied to the conjunctiva by means of a small spray. He concludes that "croupous" and "diphtheritic" conjunctivitis are clinically and bacteriologically one and the same disorder.

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### Gonorrheic Ophthalmia of the New-born.

C. Koller (*Medical Record*, July 5, 1902) says that irrigations of the vagina with antiseptic solutions before confinement have not much effect in preventing infection of the new-born. Credé's method, introduced in 1879 in his obstetric clinic, reduced his cases from 10 per cent to 0.1 or 2 per cent, and was a great triumph in preventive medicine. If generally used, ophthalmia of the new-born would be entirely abolished. Ophthalmia of the new-born shows itself, with similar symptoms as in the adult, usually on the third day, sometimes up to the fifth day; graver cases may appear on the first day. It is generally conceded that if the child comes under treatment with the cornea intact the eyes can be saved with certainty. An exception are cases with malnutrition and failing health. Nitrate of silver in two-per-cent solution should be applied at once. The lids should be well everted, so that the fold of the fornix becomes movable, when they should be brushed with the solution until they become white. This should be done daily. Every half-hour the lids should be separated and the discharge washed away with a cotton swab saturated with boric acid. If it is deemed necessary to

apply cold, ice should not be used locally, but simply cold cotton pads should be applied. Kalt irrigates the eyes two or three times a day with a 5000 permanganate solution, using about one quart each time, with very good results. Treatment with nitrate of silver and simple rinsing away of the discharge insures good results, and this is better in the hands of the lay people than the irrigator.

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### Treatment of Ulcerative Trachoma with Ichthargan.

Dr. B. F. Gortaloff (*Vrach*, 1901, No. 49), oculist in the Russian army, speaks very favorably of the use of ichthargan in severe trachoma with consequent ulceration and pannus. He applied the ichthargan in one-per-cent solution on a cotton swab. Prior to the ichthargan, hot applications and nitrate of silver were tried, but without noticeable effect. The ichthargan produced a complete cure in each case. The author ascribes the good effect to the combined action of the ichthyol and of the silver which are contained in the ichthargan.

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## DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Lecturer on Dermatology, Detroit College of Medicine.

### Alopecia of Dental Origin.

At the meeting of the Paris Society of Dermatology and Syphilography, held on June 5, M. Jacquet (*Lancet*, June 21, 1902) showed a patient who had been attacked by alopecia areata after having suffered from bilateral facial neuralgia. M. Jacquet had treated the alopecia without success, and eventually discovered that his patient had three carious molars. A dentist was called in, and he extracted two teeth and filled a third. Three days later the neuralgia which had lasted for one year had quite disappeared. Twelve days later the patches of alopecia which were perfectly bare were covered with hair.

M. Galippe, without wishing to criticize the theory proposed by M. Jacquet as to the dental origin of alopecia, reminded the meeting that so far no dentist appeared to have been struck by the coincidence of alopecia with dental lesions. For his own part he had never seen a case.

M. Du Castel related the case of a lady who had consulted him about two patches of alopecia on the nape of her neck. A short time previous to their appearance she had had a tooth filled, and the dentist had omitted to place a clean napkin under her head. She considered that she had caught the infection from the head-rest. Now was this a case of contagion, or was the alopecia the consequence of dental operation?

M. Brocq related a case in support of M. Jacquet's contention. It was that of a little girl who had come under his care some months ago for alopecia. During the first three weeks of her treatment nothing was done to her mouth, and the patches of alopecia markedly increased. Now, however, her teeth are being carefully attended to, and while no new patches have developed, the original patches have lessened in size.

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## Mycosis Fungoides.

In a fatal case of mycosis fungoides, reported in the *Journal of Cutaneous and Genito-Urinary Diseases* for July, 1902, Dr. Wm. F. Breakey, lecturer on dermatology in the University of Michigan, Ann Arbor, describes the microscopic findings of the skin as follows:

Sections made from growths in the skin, taken from all parts of the body, show the same structure, namely, that of round cell or lymphosarcoma. The smallest of these growths are confined to the lowest part of the derma; they grow by expansion, pushing the papillary layer of the derma and the epidermis upward. There is but little infiltration about the growths, many of which possess a more or less distinct capsule of connective tissue.

In the majority of cases the smallest growths lie between the papillary layer and the sweat glands. The structure of the smaller growths is made up of small round cells of the nature of lymphocytes, among which are larger cells having more abundant protoplasm and less deeply staining nucleus, occasionally containing several nuclei. There is an abundant stroma, and throughout the smaller growths are remains of the original connective tissue of the dermis, and occasional retention cysts arising from the sebaceous glands.

On the whole the growths are not richly supplied with blood-vessels; many contain numerous small thin-walled vessels lying in direct contact with the cells after the manner of a sarcoma.

There are very numerous and heavily pigmented chromato-

phores in the papillary layer just above the growths. Sweat glands in the neighborhood of the smaller growths are hypertrophic, many of them to such an extent that they take on the character of an adenoma; around these there is a more or less inflammatory infiltration; a similar process is seen in the subcutaneous fat. The larger growths have broken through the epidermis; they show a more or less ulcerating surface and extend deeper into the subcutaneous tissue. Occasionally they show areas of simple or liquefaction necrosis, but retrograde change is uncommon; others show an increase of the stroma with atrophy of the round cells, with formation of scar tissue replacing the tumor. All stages of this process can be observed up to the completely healed growth, so that throughout the skin of the entire body are found numerous circumscribed areas of scar tissue giving the appearance of progressive development and subsidence of the tumor formation.

In the central portion of the larger growths the majority of the cells have lost their protoplasm, the nucleus remaining either free or surrounded by granular remains of protoplasm. Mitosis is seen in many of these free nuclei. No giant cells are present, and mast cells are found only in small numbers. Cell-division figures are abundant.

Sections of the skin, taken from all parts, show excessive pigmentation of the chromatophores, circumscribed areas of scar tissue, and scattered areas of small-celled infiltration most marked about the sweat glands. The number of mast cells appears to be decreased.

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## GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

### Transverse Arrest of the Head an Indication for Forceps.

C. B. Reed read a paper under this title at the recent meeting of the Illinois State Medical Society (reported in the *Medical Record,* June 28, 1902). He said that the impacted head is found low down in the pelvis with the sagittal parallel to the transverse diameter of the pelvis, the fontanels on about the same level, and no tendency to forward rotation of the occiput. Deep

transverse arrest of the head was recognized thirty-two times in the last 3600 labors at the Chicago Lying-in Hospital, or 9 per cent. According to Munich, the condition occurs in primiparæ in 81.61 per cent of all the cases, and is due to the early descent of the head into the pelvis. This unusual frequency in primiparæ is not borne out in the Chicago Lying-in Hospital statistics. Here eighteen cases occurred in multiparæ, and fourteen in primiparæ. Flat pelves, general contracted pelves, the too large pelvis (47 per cent of Ahlfeld's cases), exostoses of the sacrum and symphysis, insufficiency of the powers of labor, pendulous abdomen, and dolichocephalus were also of etiological importance. The diagnosis was readily made by vaginal examination. The danger to mother and child arose from the great prolongation of the labor and the consequent evils—sepsis, fistulæ, necrosis, hemorrhage, and so forth. Cases were treated either by position on the side, by manual correction, or by forceps. In the Chicago Lying-in Hospital service the maternal conditions furnished the most frequent indication to terminate the labor. Forceps were applied twenty-three times; head spontaneously rotated nine times; forceps applied in the oblique diameter of pelvis which corresponded to the position of the occiput. The head was grasped by the anterior malar bone and posterior parietal eminence. Two objects are to be secured, rotation and extraction, and these must be simultaneous.

The author concluded that deep transverse arrest of the head is a relatively common complication of labor. The diagnosis is easily made from the position of the fontanels and sutures. The normal termination of the case cannot be awaited in most instances, but forceps should be applied as soon as it is evident that rotation will not occur spontaneously. The location of occiput must be determined before the forceps are applied. The blades of the instrument must be applied in that oblique diameter toward which the occiput lies. Traction and rotation must be simultaneous.

# THE MEDICAL AGE

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## ORIGINAL CONTRIBUTIONS.

### THE REVIVAL OF THE USE OF STATIC ELECTRICITY.

BY C. R. WILSON, M. D., PHILADELPHIA.

The introduction of the *x*-ray apparatus has again popularized and extended the use of the oldest form of electricity known. The *x*-ray is an improved form of this machine, and permits the use of this branch of electricity for other purposes. We are apt to neglect the older forces for the new, and yet static electricity has been its own worst enemy. While a powerful force, it fell into disrepute because of the unreliable nature of the instrument with which the work was done. Humid atmospheres, changes of seasons, lack of proper appliance, improper location in offices, etc., have created such uncertainty in action that the physician first distrusted, then discarded, its use. However, this factor has been removed, and it is now possible to get a reliable static machine, and to obtain results which can be had from no other method of therapeutics. The quacks have long known the value of this form of electricity, and have reaped many golden harvests from it. Again, the value of electricity has been fought as a therapeutic agent with great bitterness by many. This has been partly owing to the foolish claims of many electrical specialists in gynecology, and partly to the lack of success of physicians using galvanic and faradic currents.

The first great advantage in using static electricity is the fact that it is not necessary to remove any clothing from the patient to apply the current. As one operator has said: "A lady can be treated, the current applied as directly to the part to be affected through the sealskin coat as her dressing gown. This is an important item to the busy physician and the modest woman. It is not necessary to remove rubber overshoes even to receive the full benefit of an application."

The application of the static bath, or "static insulation," is as follows: The patient is placed upon an insulated platform con-

nected by a chain or wire to either pole of the machine—for example, to the positive. The negative pole is then joined through another chain to the floor, if uncarpeted, or to the gas-pipe, and thus grounded. The poles of the machine, sliding rods, are then widely separated and the wheels (glass plates) set in motion by means of hand, electric, or water power. The patient is thus charged with positive electricity. According to the conditions of the atmosphere, the manifestations of the presence of the current are very apparent: the hair, for example, stands on end, tingling is felt through the whole body, and the séance, if kept up for ten or fifteen minutes, causes profuse perspiration. This produces a sense of exhilaration that comes from no other form of electricity.

Especially in cases where neurasthenia has appeared as the result of large inroads upon nerve force does static electricity act with peculiar happiness. This mode alone, or combined with the spark, direct or indirect, acts to produce speedy and lasting results. When the patient is insulated, the spark can be used by attaching the proper electrode. Using a wooden one shaped like a ball, the sensation as of a shower of sand being driven gently against the body is produced. These electrodes can also be used to the head and face, to concentrate the current over regions of the brain and organs of special sense, with excellent results. As a pain reducer static electricity is unequaled. Even in trifling complaints the results are excellent. Graydon illustrates this point with the description of some trifling cases which presented themselves for treatment:

"A young lady presented herself apologetically in my office, with a bunion that crippled her. As she was a society girl, and very fond of dancing, it was a great annoyance to her. This trifling, little, insignificant bunion put a check on her pleasure. I was brought to see the fact, as it often happens in our practice, that what is almost contemptible in its littleness enables us to get the confidence of the patient in graver matters. So it happened in this case. I insulated the lady, and, without removing the shoe during treatment, drew with the wooden ball electrode a fine spray of current directly from the painful spot. The application was pleasant, and followed by immediate relief, which was complete after four or five sittings.

"Again, a lady, in running for a street-car, fell upon her knee. She came into my office about three hours after it had happened, with knee swollen, stiff, and painful. Through all the thickness of her clothing the same mode of application removed all pain.

"A case of lumbago was given two treatments on consecu-

tive evenings with the metal ball, sparks half an inch long, with the same happy results."

Again, neuralgic cases yield to the spark applied over painful areas. Headaches not due to stomachic disorders show marked change for the better. Using the douche and brush in these cases, as well as in brain cases, is of greatest service. In cerebral hyperemia, in vasomotor storms, static electricity acts well. Its use is now extending to the insane hospitals in treating paresis, locomotor ataxia, and allied conditions. One case can be quoted as a sample: "A middle-aged woman had been suffering from chronic cerebral meningitis for seven years, during which time she was treated by well-known specialists. After everything else was exhausted, she was put on applications of static electricity. It was the first treatment to give her any alleviation from her agonizing headaches, which amounted to mild delirium. The treatment was palliative only, but it was the only measure that gave her relief."

In my own hands the results have been excellent, although I must acknowledge that each patient has a rule of his own governing the application. For example, pain in head affections may be relieved by the positive current and irritated by the negative, or *vice versa*. Elsewhere this effect is noticed.

Graydon's conclusions, made ten years ago as a pioneer in this work, still hold good. They are as follows:

1. Static electricity is a safe and reliable agent in the general practice of medicine. I do not mean to say that its reliability is of such a nature that its environments are to be neglected. For example, the office in which the instrument stands must not have any dampness about it. That state of perfection has not yet been reached that will give a static current at all times in an office so damp that the paper will not stick to its walls. A wooden case can hardly be made which will not absorb some moisture in an atmosphere like that. In placing a machine I should see that there was no wet cellar under it, if the office be on the first floor; when the room is on the second it is not so material.

2. This treatment can be applied pleasantly and with benefit to patients, and at times when the galvanic and faradic cannot be used.

3. In "static insulation" we get results only attainable from "general galvanization" and "general faradization," without the expense of time, trouble, and exposure—and frequently, too, after both those forms have failed.

4. In many forms of pain prompt and permanent relief follows its application, such as is unequaled by other agents.

5. As a tonic in systems overwrought, overdrawn, mental grip slipping away, it performs a very important part. The readiness with which it can be applied, and the good results obtainable, prompt me to make use of its properties frequently.

6. In various forms of headaches its effects are uniformly good. It is a common remark to hear from patients, "I can feel the pain being lifted, the heaviness going," or similar expressions indicative of appreciable relief.

7. In the treatment of insomnia the use of the douche is effective, a feeling of drowsiness making itself felt during its application.

8. In treatment about the head I have found a difference in the effect between the positive and negative poles, not elsewhere.

9. The benefit of the faradic current is obtained from the static inducer.

10. Growth of hair, I have observed, has been promoted, and the falling out of it stopped, in some of my cases of head pain.

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## PSEUDARTHROSIS OF THE CLAVICLE FOLLOWING FRACTURE; CARCINOMA INVOLVING THE LOWER SEGMENT OF THE RECTUM.*

BY N. SENN, M.D., PH.D., LL.D.

Professor of the Principles and Practice of Surgery and Clinical Surgery, Rush Medical College (University of Chicago); Attending Surgeon, Presbyterian Hospital, etc., etc., Chicago.

### Pseudarthrosis of the Clavicle Following Fracture.

This case is one of pseudarthrosis of the clavicle following a fracture. The patient is a young man, twenty-five years of age, who was born with a congenital defect of the arm. The arm is in a paretic, not paralytic, condition. The muscles of the arm lack power. He informs me that he has suffered from a similar accident (fracture of the clavicle); recently the same accident occurred; the arm was placed in exactly the same position that it previously occupied, but this time the fracture has failed to unite. We have before us one of the rarest cases of non-union after a fracture of the clavicle. The clavicle is noted for its intrinsic power of regeneration. It matters very little, so far as bony union is concerned, whether we resort to reduction and immobilization, union with but few exceptions takes place, something that we cannot say of some of the other long bones. The clavicle least frequently is the seat of pseudarthrosis, although

*Stenographic report of a surgical clinic, delivered at Rush Medical College.

it is one of the most frequent seats of fracture. I believe that in this instance we have an appreciable cause for non-union. Certainly no blame can be attached to the treatment employed and carried out in this case. The patient undoubtedly received the orthodox treatment, which consists of putting the forearm in proper position, etc., but no callus has formed. I attribute the non-union in this instance entirely to the intrinsic absence in the fractured bone of reproductive power, of callus formation, undoubtedly due to the congenital defect. It is very rarely indeed that patients apply to us for treatment when a fracture of the clavicle unites by vicious union. Very seldom vicious union materially interferes with the function of the arm, but in this instance the patient is satisfied that since this accident occurred he has less use of the arm and forearm than before that time. He is therefore willing to subject himself to the necessary treatment to effect bony union. The patient otherwise is in excellent condition. His general health is not responsible for this defective callus formation.

I find here at the seat of injury a condition that we are very familiar with in fractures of the clavicle, namely, that the inner fragment is drawn upward, and I can readily demonstrate the fragments underneath the skin. I now embrace the end of the bone, rounded off by absorption since the accident occurred. The outer fragment is displaced in the opposite direction; it is drawn slightly backward. We attribute this characteristic deformity to the action of two powerful muscles. The inner fragment is drawn up by the clavicular portion of the sternocleidomastoid muscle, while the outer fragment has deviated in the opposite direction by the subclavius. I know of no treatment in this instance that holds out any hope whatever of effecting bony union—that is, restoration of the fractured bone—short of exposure of the seat of fracture, vivifying the fragments, uniting them by direct means of fixation. I find here a distinct separation of the two fractured ends and the interposition of fibrous tissues between the ends. Rubbing together of the fragments, the injection between the fragments of irritating substances, notably alcohol and chloride of zinc solution—the former fifty per cent, the latter ten per cent—the two most important sclerogenic agents, would effect here no callus formation to the extent of restoring the continuity of the bone. We shall have to expose the seat of fracture. I will isolate and bring forward the two fractured ends for direct union by drilling and metallic sutures.

In operations of this kind it is important to make your incision large enough to insure free access to the seat of operation, and

yet we must not forget, in this instance, that we are operating in an extremely important anatomical locality. I have no doubt that we shall find the outer fragment almost riding upon structures that we must carefully avoid—the subclavian vessels. I shall, therefore, when I come to isolate the outer fragment, use additional care in preventing unintentional injury to these important structures. Wishing to gain as much space as possible, I shall make a curved incision with its convexity directed upward, and shall reflect this shallow oval flap in a downward direction, thus exposing the seat of injury, the seat of the false joint. I start the incision at a point near the sternoclavicular joint directly over the clavicle, carry it upward a little beyond the upper margin of the clavicle, now downward near to the junction of the clavicle with the scapula, making the incision slightly curved. With the dissecting forceps I grasp the lower margin of the wound and reflect the shallow flap. I am now exposing the inner fragments very satisfactorily. I think I shall be able to show you in a few moments the tip of the inner fragment. I palpate the seat of fracture, and I shall be able to show you upon my two index-fingers the tip of the inner fragment, which I will expose a little more freely. I find, so far as I have exposed the bone, no indications whatever of callus formation. I will make a liberal use of the periosteal elevator in liberating the inner fragment. You will observe that the elevator is now inserted beneath the inner fragment; I ask the assistant to hold it in position so that the inner fragment can be elevated sufficiently. I come down to the ligamentous union, which, of course, must be divided before we can elevate the inner fragment to the necessary extent. I have divided the ligamentous tissue uniting the two fragments. We will now attempt to enucleate from this bed of connective tissue and of scar tissue the tip of the inner fragment. I am very anxious to find out whether or not we have interposed between the two fragments a true joint. I hug a portion of the bone closely, because in some cases of fracture terminating as this one has in pseudarthrosis and displacement of the fragments, occasionally we have to deal with the displacement of adjacent structures—vessels and nerves. I now try to detach the capsule all around the end of the fragment, and I show you the inner fragment which I have isolated. You will also see the appearance of the fractured surfaces. I think I can recognize here simply as one of the coverings of the fractured end new cartilage that has failed to undergo ossification, and that would be intended to form one of the important structures of the new false joint.

I will now search for the outer fragment, which will be much

more difficult, because it has been displaced in a downward direction and requires additional care in its isolation. I grasp the inner fragment, lift it up with what remains of the capsule, and cut down upon the outer fragment directly over the middle; and now I carefully proceed with the separation of this fragment, almost detaching it from the surrounding structure, otherwise the process of repair will be unsatisfactory. We bring the fragment forward. Here is where the dangerous part of the operation is made. I have now become master of the situation so far as elevation of the fragment is concerned. The tissues are so dense that I have made use of the knife, an instrument I do not like to use in this locality if the periosteal elevator will suffice.

Notice the end of the fragment. You can see the overlapping of the two segments. The isolation is fairly under way. I will excise the ligamentous connection with bone-cutting forceps. We have now the fractured surfaces fairly well exposed. I shall remove all of the tissue which will interfere with the coaptation of the fractured ends, making careful excision of the ligamentous union. The fracture evidently was quite oblique. The fragments override each other considerably. I will now vivify the fractured surfaces, and I will do this with bone-cutting forceps, removing as little bone as possible, securing adequate, fresh bone surface to be coaptated; then by the use of silver wire sutures we approximate the parts. We vivify now the outer fragment, and then the inner fragment. When we come to perforating the fragments, we want the best lines for the metallic sutures. I vivify obliquely so as to lose as little of the bone as possible. Both fragments are fairly well brought together, both have been vivified, and are now ready for drilling and coaptation. First, I will drill the outer fragment. The bone is not sclerosed; if anything, there is abnormal softening. It is difficult to treat in this locality by the operation which you are witnessing now. It is tedious. You will observe that I am using a hand-drill so as not to go beyond the legitimate limits and perforate some of the underlying blood-vessels. I have the elevator directly under the fragment. I find the bone is a little harder than I anticipated, hence the process of drilling is more tedious. I have finished drilling on one side, and just as we have completed it the perforated fragment is kept in position. The silver wire suture will now be placed on one side. I will now use the rapid drill to see if I can drill the other fragment from the opposite side. We try to avoid all possibility of injury to the subclavicular vessels. I am drilling here obliquely so as to get a firm hold on the fragments. I will measure the distance which I have perforated with the

drill, and I find it is a little more than half an inch. We have now drilled through. We have drilled an opening nearly three-quarters of an inch away from the head of the fracture. I will see if we can pass wire through the drill opening that has been made.

The most difficult part of the operation is completed. The wire is now in position. You will notice that I can bring the two fragments of bone together, and here I have the silver wire ready in place to coaptate and hold the fragments in position. I will tighten the silver wire sufficiently to bring the fractured surfaces accurately together, but not twist too tightly for fear of producing necrosis by cutting off the circulation of the tissues included in the wire suture. There are no blood-vessels which will require ligation. Having the fractured surfaces together I bring the silver wire over in the manner you see and twist it with sufficient tightness to bring the parts in apposition. We do this with a Kocher forceps, which answers an excellent purpose. You will notice that I have now fixed the fragments very firmly, and will give the wire another twist. The next thing to do is to cut off the wire at a safe distance from the twist, and this is done with cutting forceps. I bend the twisted part of the wire in this manner, hammering it down with the metallic hammer. The clavicle is now firmly immobilized; the fractured surfaces are in accurate apposition. We shall use a few catgut stitches. We will cover the clavicle separately with two rows of buried sutures. We prefer to do this so as to avoid the necessity for drainage, and at the same time furnish the clavicle with its normal surroundings. We have been very fortunate in this case to have met with no deep vessels of any size requiring ligation. We have nothing but the wounds we have made, which will be united with silkworm-gut sutures and horsehair, and the arm will be dressed in the same position as though we were treating a recent fracture of the clavicle. It will be placed in such position that there will not be any undue tension on the wire sutures. After the arm is placed in the position I have shown you, a large dressing will be applied, with a few rounds or turns of plaster bandage.

## CARCINOMA INVOLVING THE LOWER SEGMENT OF THE RECTUM.

The first operative case that I show you this afternoon is one in which carcinoma of the lower segment of the rectum has unquestionably advanced beyond the limits of an advisable, feasible, justifiable radical operation. The cancer involves the lower part of the rectum and the adjacent tissues, and has been a source of great suffering to the patient, having resulted in a

chronic form of intestinal obstruction. We shall at present perform simply a palliative operation; later we shall give the patient a most thorough examination, with a view of determining the propriety of attempting to remove the original difficulty. But, even in that event, we prefer to make a preliminary left inguinal Maydl colostomy. I wish now to demonstrate every step of this operation, because it is one that you will resort to in all cases in which it becomes necessary to relieve the symptoms of obstruction produced by malignant disease or by cicatricial contraction beyond the limits of the ordinary treatment by gradual dilatation. The patient has been properly prepared, and I will now begin the operation.

In the first place I determine exactly the position of Poupart's ligament, which serves as a guide in making the primary incision and in opening the abdominal cavity. Cut as few muscular fibers as possible in performing this operation, to avoid, on the one hand, prolapse of the sigmoid flexure of the rectum, and on the other hand, hernial protrusion. I shall, therefore, open the abdominal cavity exactly in the same manner as in operating for appendicitis by the muscle-splitting method, which I would like to have you notice particularly. I make the first incision obliquely at a point two fingerbreadths above Poupart's ligament, about the center of this structure. We incise the skin and the underlying superficial fascia, cutting down upon the external oblique muscle, which I now expose entirely intact. You see its fibers very plainly. Let me show you how to incise them. With the knife I penetrate the muscle at the lower angle of the wound, cutting upward and outward sufficiently to enable me to insert the tip of my left index-finger, which follows the knife as a guide while I sever the fibers of the muscle. I am sure that in doing so I have not even scratched the muscle which now comes into view—that is, the internal oblique. By using the tip of the left index-finger as a guide, I have prevented possible damage to the underlying internal oblique muscle that is now in view. Let me show you how to penetrate this muscle without doing a particle of damage to any of its fibers. The direction of the fibers of the internal oblique is almost transverse. I make a little buttonhole in the center of this muscle in the direction of its fibers; I now use the ordinary Kocher's director for enlarging the opening. I work my way down to the remaining structures, and without dividing any of the muscular fibers make an entrance adequately large to serve as an opening to the abdominal cavity through which to bring a loop of the large intestine. I will now pick up the remaining structures of the abdominal wall carefully,

eliminating all possibility of grasping in the forceps any of the abdominal contents. The forceps I am using is the broad rat-tooth forceps, so that there is little risk of the sharp teeth grasping some of the abdominal contents; hence in elevating this cone I make use of my fingers in palpating the cone so as to exclude all possibility of inclusion of any of the abdominal contents in the grasp of the dissecting forceps. I incise this cone now and have opened the abdominal cavity. There is something to which I wish to call your attention in doing so, and that is the escape of quite a large amount of serum. This alone is suggestive of the presence of malignant disease within the reach of the peritoneal cavity.

The assistant will now apply forceps on the opposite side, so as to prevent the peritoneum from retracting, and I will, chiefly by blunt force, enlarge the peritoneal opening, which you see is large enough to admit three fingers. Notice the amount of serum that is escaping. I look for the intestine that I am in search of, and, fortunately, in this instance the sigmoid flexure at once comes into view and within easy reach. Very often in performing this part of the operation a loop of the small intestine presents itself and we have to replace it. In other instances the mesosigmoid is so short that the bowel cannot be brought well forward into the wound. Those are the cases which are extremely difficult to manage by performing Maydl's typical left inguinal colostomy. In this case the mesosigmoid is amply long; I can bring the sigmoid flexure well forward into the wound without any harmful tension.

At this point the operator has to determine the extent of the original local disease by intraperitoneal palpation, and to settle the question whether or not the loop of the sigmoid flexure is in proper position. These two things we now investigate. I insert my left index-finger and palpate the pelvic floor, and I will tell you what I feel. The upper part of the rectum feels hard and nodular; it is attached to the posterior wall of the pelvis, to the sacral excavation. I extend my exploration a little farther and palpate the glands along the iliac vessels, and I have no difficulty whatever in determining the existence of marked regional infection. Some of these lymphatic glands accompanying the iliac vessels are as large as a pea; their existence precludes at once the advisability of resorting to a radical operation at any time. I have not made a very thorough rectal examination, but what I have learned from palpating the pelvis satisfies me that this patient is entirely beyond the reach of all radical surgical procedures—that we will have to be content in performing a palliative operation.

I will investigate the condition of the sigmoid. I follow the lower end of this loop of intestine downward, the upper one in an upward direction. I therefore know that the bowel which presents itself is in proper position. Occasionally, in consequence of chronic obstruction, a volvulus occurs. This loop is twisted, and if it were anchored in the position in which it presents itself, we would find, in opening it later, that the intestinal contents would escape from the lower end, or what we supposed was the lower end. This has happened twice to no less an authority than König, and it has happened twice in my own practice. It does no material harm, but after all it is advisable to anchor the sigmoid flexure in proper position, which I am now doing. This is the distal end (indicating), and this is the proximal end. I now look for the mesosigmoid, which I will tunnel presently with a pair of ordinary hemostatic forceps, selecting a place where I cannot detect any of the large vessels. I show you the mesosigmoid. Here is the point close to the bowel, yet at a safe distance I find a place where large vessels are absent. I have a pair of ordinary forceps locked, I push it through the mesosigmoid, dilate the channel, and will now insert the Maydl bridge, which is simply a small cylinder of glass surrounded by two or three layers of iodoform gauze. I grasp the end of this gauze cover or envelope, draw the bridge through the tunnel already made, and anchor the loop in the external wound. Maydl depended on his bridge to keep the loop of the bowel in proper position, and advises at this stage of the operation that the surgeon should surround the base of the loop with iodoform gauze to permit nature's efforts to exclude the peritoneal cavity from all sources of infection by the formation of firm adhesions prior to opening the bowel. I have learned better. In one of these cases I followed the advice of Maydl to the letter. The patient, after recovering from the immediate effects of the anesthetic, coughed severely, and the next day, when I was summoned, I found a number of loops of the small intestine extruding from the wound. It taught me a very important lesson—that is, invariably to suture the parietal peritoneum to the base of the sigmoid loop, which we do now, to shut out by mechanical means the peritoneal cavity.

I will ask the nurse for a round needle and very fine catgut. I grasp the parietal peritoneum on this side, and shall do the same on the opposite (illustrating). We now suture the loop in proper position. Here is the parietal peritoneum on the tip of my index-finger. I will insert one stitch at this point (indicating), grasp the parietal peritoneum, and see how much of this

intestinal loop it will be well to leave outside of the abdominal incision, returning a little of the bowel. I take a stitch at this point (indicating), where there are no visible blood-vessels, including the peritoneum and muscular coat, and tie this stitch. I shall take a similar stitch on the opposite side. On this side I think it will be more convenient first to grasp with my needle the tunics, next the serosa and muscularis of the bowel, then the parietal peritoneum. I show you the tip of my needle, and tie. We have anchored the distal limit of the loop, with two stitches in the parietal peritoneum. I shall do the same on the opposite side. I lift up the peritoneum as before, transfix it, place the loop in proper position, include within the grasp on the needle the serous and muscular coats, and we have the stitch in position. The last stitch remains to be taken on the opposite side. I lift up the parietal peritoneum with the tip of my finger, replace a part of the loop of the bowel that is not needed in the formation of an efficient artificial anus, and transfix here the serosa and muscularis.

We have now four fixation sutures in place, and all that remains to be done is to bring the two limits of the intestinal loop in close contact for the purpose of forming an efficient spur. That is an important matter in the formation of an artificial anus. This is done by taking two stitches below the Maydl bridge and uniting the two limits to the extent of about an inch or two in the manner which you observe now. I lift up the Maydl bridge, expose the two limits, transfix the serosa and muscularis at a point half an inch below the Maydl bridge, tie, and our first stitch is in place, cut short to the knot. This is an operation which all of you should be absolutely familiar with.. I take another stitch a little lower down, immediately outside of the grasp of the other stitches, uniting the intestinal loop with the parietal peritoneum. This will now unite, as you see, about an inch and a half of the two limits of the loop accurately, making sharp flexion at a point immediately opposite the Maydl bridge. The second stitch is in place. I am using an ordinary cambric needle with fine silk, the instrument and material which you should invariably select in performing this and similar operations on the intestines. We have now the intestinal loop safely anchored in the wound, in the first place by Maydl's bridge, and in the second place by four sutures, with which the base of this loop has been fastened to the abdominal incision. I will diminish the size of the external opening a little by inserting two or three sutures of silkworm-gut, suturing the wound close to the base of the protruding intestinal loop. I am extremely desirous that

you should observe every detail of this operation, because it is one that you will be frequently called upon to perform in cases of malignant or cicatricial stenosis of the rectum beyond the limits of more conservative measures. I now diminish the size of the incision on this side.

I wish to show you how the dressing should be applied after performing the first step of this operation. It is not my intention to open the intestine to-day. I hope to be able to borrow enough time from my colleague (Professor Fenger) to bring this patient in here two days hence, when I shall open the intestine and establish a fistula. We have the sigmoid flexure in proper position. The wound is closed up to the base of the two limits of the intestinal loop, which is safely anchored in the abdominal incision upon Maydl's bridge, and in addition by four sutures connecting it with the parietal peritoneum. I will dust the parts thoroughly with borosalicylic powder and show you how to dress the intestinal prolapse. The margins of the abdominal incision hug very closely the base of the intestinal loop, which rests upon this Madyl bridge; there is absolutely no possibility of a return of the large intestine nor of a prolapse of the loops of the small intestine. I will surround the base of this loop with a narrow strip of iodoform gauze. I would like to have you notice particularly how it is applied underneath the bridge, hugging the base of the loop closely. With iodoform collodion we will seal the dressing to the base of the intestinal loop and to the surface of the abdomen, saturating the strip of iodoform gauze all around. We shall make an occlusive dressing, which when we come to incise the intestinal loop will be of the utmost service in preventing the ingress of any of the intestinal contents into the abdominal incision. Upon this hermetical sealing of the parts I place the greatest stress, because later, when we come to open the bowel, leakage from the open intestine might result in infection of the abdominal incision, if not in peritonitis. No such danger is encountered after dealing with the abdominal incision and protruded intestinal loop in the manner which you have just witnessed. I will let the collodion dry, then we will apply over it a strip of gutta-percha as an additional protection. I tear an opening in the gutta-percha large enough to receive the protruded part of the bowel, place upon it the Maydl bridge, and then cut it so that it will be of adequate size. This piece of gutta-percha with a central opening, Maydl's bridge, and the sigmoid loop will be sealed to the surface of the abdomen again with collodion. This gutta-percha protection proves very useful, after we establish the artificial anus, in diverting from the abdom-

inal incision the intestinal contents. I seal this gutta-percha safely in position, and we are now ready to apply the external dressing.

Day after to-morrow we shall make the visceral incision over the Maydl bridge, including about two-thirds of the circumference of the bowel. It can be made without a general or local anesthetic, because the gastrointestinal tract is not sensitive to pain when in a normal condition, as I shall be able to demonstrate. Notice how I apply the external dressing. I desire that no harmful pressure be exerted over the protruding loop of bowel, and particularly over the Maydl bridge; hence I take ordinary sterile absorbent gauze and apply a dressing in the form of a bird's-nest in this way—that is, dressing to one side of the intestinal loop, leaving the central part of the loop free, to relieve or protect it from all possible sources of pressure. Over this circular dressing we will apply the usual absorbent aseptic dressing.

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## SHALL PATIENTS BE INFORMED OF THE SOCIOLOGICAL DANGERS OF SYPHILIS AND GONORRHEA?

BY C. C. MAPES, LOUISVILLE, KY.

A few years ago, in an article published in the *New York Medical Journal,* the writer called attention to the importance of enlightening syphilitics and gonorrheics as to the dangers of infecting innocent persons, in which the following emphatic language appears:

"Every one with whom the syphilitic associates is in danger of being infected, and not to so inform a patient suffering with active syphilis is to aid in its dissemination. Syphilis may be innocently contracted in divers and sundry ways. The old theory that it is essentially and distinctly a venereal disease, only transmissible through unclean sexual congress, has long since been overthrown. It is not, *per se,* a venereal affection, although probably more often than otherwise communicated by sexual congress. It is well recognized that syphilitic poison coming in contact with an abraded surface anywhere upon the body will propagate the disease. This is demonstrated by reports of extragenital chancres, and requires no further comment—its truthfulness has been established beyond a doubt.

"Outside of sexual contact, kissing is probably the most prolific source of syphilitic contagion, and to allow the possessor of active syphilis to continue practicing osculatory demonstrations in his family or elsewhere, in ignorance of the almost inevitable

consequences, as is the present prevailing custom, is simply to aid in the wholesale dissemination of the disease; it constitutes a crime which should be immediately abolished.

"Instances can be recalled where husbands have become infected with syphilis, in turn promptly infecting their wives and children, the latter being innocent victims, in which instances the disease might have been confined to the husband by a proper understanding of its nature and of the dangers incident thereto. Conjugal and domestic difficulties, as a matter of course, might arise from explanations where the husband had already infected his connubial partner, but these would be infinitely preferable to the infection of innocent persons with such a disastrous and persistent disease as syphilis.

"It is true that *patres familiae* should not frequent brothels, or otherwise subject themselves to the liability of syphilitic infection, but the fact remains that some do so, and will probably continue to do so as long as prostitution exists, which promises to be so long as human nature remains radically unchanged.

"In the opinion of the writer, when a male, married or single, is unfortunate enough to contract syphilis, innocently or otherwise, he should be immediately informed of the inevitable consequences of personal contact of all kinds with others; and the same is equally true of the opposite sex.

"It has been argued that when the husband has infected his wife with syphilis, and the latter applies to the physician for treatment in ignorance of the nature of her affliction, she should not be enlightened, in the interests of the patient herself, her family, and the physician, lest the divulging of the husband's secret should disrupt connubial and domestic relations. 'Angels and ministers of grace defend us!' Would it not be a thousand times better to disturb domestic relations rather than to permit the syphilitic infection of innocent children, relatives, and friends by the damnable, disgusting custom of indiscriminate, promiscuous osculation? Do not reason and common sense dictate that it would be better to confine syphilitic infection, if possible, within the narrowest limits, even at the expense of conjugal disquietude, rather than to stand idly by and witness wholesale dissemination of the disease, when by judicious explanation its spread might be prevented?

"I believe that attendant to be guilty of culpable remissness and negligence of duty who fails to inform every patient suffering from active, transmissible syphilis of the dangers incident to immediate personal contact with others. Syphilitics should even be isolated, when necessary, for the protection of the public, so

that the disease may be confined within the narrowest possible limits. That such a course is not followed we have almost daily evidence. As an illustration, a wet-nurse contracts syphilis, and, remaining in ignorance of the true nature of the affection, continues her vocation during the active or contagious stage, probably infecting every infant which she nurses, to say nothing of the probability of her spreading the infection in other directions. The babies to whom the disease is thus communicated may in turn infect their fathers, mothers, brothers, sisters, as well as a host of admiring relatives and friends, whose custom it is to 'kiss the baby.'

"Under existing circumstances it is impossible to even approximate the number of cases of syphilis emanating from a given source. In some instances the number is undoubtedly great, which, by proper attention to the person originally infected, might have been markedly lessened.

"Especially should persons having extragenital chancres, situated on the lips, tongue, in the buccal cavity, on the mammæ, etc., be warned against the danger of communicating the disease to those with whom they associate. This also applies with equal force to those having chancres of the genital organs, and in addition, patients should abstrain from sexual or other personal contact so long as the disease might thereby be transmitted.

"We know of several instances where syphilis and its equally persistent partner, gonorrhea, have been transmitted to very young female children by older males, who suffered with one of these diseases, 'playing' with the genitals. Such a male is guilty of a criminal act, the penalty for which should be exceedingly grave, and the law should be relentlessly cruel. To knowingly submit an innocent child to infection with so formidable a malady as gonorrhea or syphilis is a heinous, beastly, damnable transgression of human laws, and punishment therefor should be as severe as possible.

"The assumption is reasonable that if a better understanding existed as to the danger incident to syphilis and gonorrhea, innocent persons would be less frequently exposed thereto in the wanton fashion which is at present prevalent, and to which attention has previously been called.

"It is stated that the physician must not betray the confidence of his patient, that he must protect the patient's interests, and I do not wish to be understood as advocating anything contrary to the established ethical code which assumes to govern and regulate the practices of medical men and their attitude toward patients; but we would suggest that the same legislative and

other regulations should be applied to syphilis and gonorrhea as to other infectious and contagious diseases, and that the subject thereof in all cases should be made thoroughly acquainted with the dangers incident thereto.

"If that sexual purity which should exist in both sexes, whether in or out of wedlock,* existed generally, there would be little likelihood of infection with either gonorrhea or syphilis from sexual contact; but the fact remains that sexual purity does not exist in a large percentage of cases, which makes the necessity more apparent that persons suffering from either disease should be thoroughly informed of its nature; and we insist that such explanation should be made by the medical attendant, whose aim should be to secure protection to the greatest number, let the immediate results be what they may. The public would thus be largely conserved from the ravages of two diseases, terrible in their most favorable aspects; and while domestic quietude and tranquillity might suffer temporary unheaval, the ultimate result would be: (1) An improvement in public morals; (2) a limitation of two contagious and loathsome diseases; (3) a diminution of prostitution in both sexes; (4) a production of healthier offspring; (5) a consequent preservation and exaltation of the moral integrity and physical attributes of the human race."

As might have been expected, the publication of this article called forth considerable criticism, adverse and otherwise. A physician of prominence, professor in a medical college in this city, to whom the proof was submitted, strongly advised against the article being allowed to appear in print, fearing it might be productive of harm to the interests of the medical profession. He declared that if physicians were to adopt the suggestions offered in the manuscript submitted, they would soon have no clientele.

A prominent physician in one of our southern cities, after perusal of the article referred to, in a personal letter to the writer made the following commendatory comments: "I read with much pleasure your forceful article in the *New York Medical Journal.* I am in entire agreement with you in the position you

*Lincoln is accredited with the statement that every man who contemplated marriage should stand over a doctor with a club and make him tell the truth in reference to the chosen partner for life, if there were no other way of getting it out of him. He declared that the parents who would allow a girl to marry a man without knowing, as nearly as could be known, his physical as well as his moral condition, deserved to be scalped; for fashionable girls too often were cursed with foolish mothers, who cared for nothing but to see their flesh and blood sold to the highest bidder.

take. I have for some time applied the principles laid down by you in my practice; I never fail to enjoin upon a patient who comes to me for treatment of syphilis to heed daily the communicable nature of his disease. But when what might be called the agonal stage has passed—that is, when the patient has not recovered from the alarm of first knowledge of his misfortune, and yet lives in a state of great mental perturbation—he is prone to neglect precautions. He must be constantly and sharply reminded of his obligation to his fellows. Some are scrupulously conscientious, the majority are not. It is a large question, full of interest and fuller of disappointment to those who are working for the betterment of mankind. Human nature is frail, and, more than that, it seeks to justify and extenuate its weakness. A man who has syphilis regards himself as an injured innocent, and that it is a misfortune for which he demands sympathy. Regarding himself as a martyr, he is not quick to subject himself to self-denying ordinances. To him the world must look out for itself. He does not propose to incommode himself for the protection of other people. It is this intense egoism, this concentration of selfishness, that defeats our efforts and sets our counsel at naught. The social evil is the running sore of civilization, and syphilis the discharge. Our hope lies not in repression, but in attenuation of the disease and fuller knowledge of it."

In substantiation of the position assumed in the contribution referred to, and to further emphasize the imperative demand that the laity be enlightened upon these important matters, the citation of two cases and a further review of recent literature may not be uninteresting.

P——, female, aged nineteen, contracted syphilis about two years ago; she had a genital chancre which was unobserved. The physician to whom she applied for treatment and advice after appearance of the roseola and extensive buccal, labial, and vaginal mucous patches, made no especial inquiries in regard to the site of the initial lesion, and in justice to him let it be said that the location of the chancre made but little clinical difference at that stage of the disease; but it was of some importance in considering the number of people she had probably infected. During the interval between her infection and the time the disease became plainly apparent even to the casual observer, it is almost certain she infected every man with whom she had sexual intercourse, as well as every person whom she kissed after appearance of the buccal and labial mucous patches. For reasons best known to himself, the physician did not explain to the patient the nature of her malady; it is reported that he did not even inform her that

it was infectious, nor that she should abstain from intercourse or contact with others, male or female, adult or child. It is, therefore, impossible to even approximately estimate the number of cases of syphilis emanating from this single original source.

This patient belonged to the small army of semi-professional prostitutes, a "clandestine," or "periodical" member of the Cyprian sisterhood, one regarded in common parlance as "a private snap,"* and seemed to think there was nothing serious the matter with her until appearance of rather extensive genital, buccal, and labial mucous patches, lymphatic enlargements, etc., and until her eyelashes, eyebrows, and part of her hair had fallen out, when the disease was plainly recognizable by even the uninitiated. Even when this stage of the disease had been reached she is positive that the physician said nothing to her about its infectious character, etc. While vaginal and buccal lesions were still present, she was allowed to marry. The inevitable result, viz., infection of the husband and a separation, soon followed. By this time she was in a pitiable condition and consulted another doctor, who immediately explained in detail the nature of the disease from which she suffered, stating that she was a menace to those with whom she associated; that she must positively abstain from intercourse and even contact with all persons not already infected; that she must persist in a systematic course of treatment of mercury and the iodides for at least two years; and that she must report to him once a week. His instructions have been followed to the letter; she has now been taking the usual antisyphilitic remedies for about fifteen months; her hair, eyebrows, and eyelashes have been restored, and to all external appearances she is well.

F——, female, aged seventeen or eighteen years; personal history practically a duplicate of Case 1; genital chancre, unnoticed, and patient not aware of disease until faint roseola appeared, when she consulted the family physician for some supposed "skin trouble." A prescription for hydrargyrum protiodii, ¼ grain t.i.d., but no caution or advice, given. She took the medicine for the supposed "skin disease," of the nature of which she was not informed. Involvement of buccal and labial mucous membranes very slight, no falling of hair or eyebrows, and little adenopathy.

This patient also probably infected every man with whom

*In this connection it is interesting to note that, according to the best obtainable information, vastly more gonorrhea and syphilis are disseminated through this class of prostitutes than by inmates of regular houses of prostitution.

she had sexual intercourse from appearance of the chancre until the disease could no longer be transmitted. The number of cases of syphilis disseminated from this source is also unknown, but we are aware how prone men about town are to "pick up private snaps" instead of visiting regular houses of prostitution. And we must also consider the probability that each man infected by either of these two women also spread the infection to one or more other females before being made aware of the contagious character of the disease, and that the same thing applies to the other women so infected; so it would be utterly impossible to formulate any conclusions as to the number of people syphilized from these two original cases, under the conditions which at present obtain, when with proper care on the part of the physicians first consulted infection might have been confined within narrow limits. If a patient would apply for treatment immediately upon appearance of the chancre, and if the physician would do his whole duty, the dissemination of syphilis could be greatly lessened. That this condition, unfortunately, does not obtain at the present time we have abundant evidence to prove.

The outlines of these two cases are sufficient to emphasize the duty of the physician under similar circumstances; further details and comments are unnecessary.

The information which follows has been excerpted from available medical literature, and the original articles, etc., may be found in the list of publications noted at the close of this contribution.

1. It would be only just that men who give or propagate syphilis should be punished; but we fear that such a course is impracticable. Syphilis is spread in our large cities, and we cannot ignore the existence of the agents by whom it is diffused. Some measures should be adopted to control the social evil. Compulsory registration does not meet with favor from scientific men who have studied the subject; and it appears that the French system has failed, owing to the penal clauses which send the unfortunates to prison and not to a hospital. In Italy the Contagious Diseases Acts are no longer enforced, so that the arguments drawn from foreign customs no longer apply. Some control is absolutely demanded. Unlicensed prostitution in London, for instance, is worse than ever, in spite of police efforts that the streets may be kept clear. But this does not diminish the evil; you do not get rid of dirt by simply putting it out of sight.

2. Before leaving this subject, I want to express my opinion on board of health control of syphilis, which subject is so important that all physicians should put themselves on record con-

cerning it, in order to assist in educating public opinion. When one begins to realize the ease and frequency with which syphilis infects innocent persons, especially women and children, who in their turn become foci for other series of cases, one cannot but ask why syphilis is not as worthy of attention by boards of health as many diseases, measles for instance, of which they do take cognizance.

3. Surely syphilis is on the increase. No one knows, except one who does this special work, how much syphilis is about. It penetrates all society. Some it infects by direct contact by connection; with others it is grafted by an innocent kiss or perhaps by a stick of candy or a toothbrush, by grease-paint, or by drinking out of a cup. Yet the lawmakers, the clergy, and the people think they are doing right in not recognizing something that does exist and is liable at any moment to be inoculated into the system of an innocent baby boy or girl by the blindness of the sin, ignorance.

4. A young married man, either through natural immoral tendencies or disagreement and dissatisfaction at home, seeks sexual pleasures elsewhere, contracts gonorrhea or syphilis, and transmits the disease to his innocent wife, and it may be his unborn child. Consider the suffering and anguish inflicted upon two innocent human beings! Again: Imagine a young man, on the eve of his marriage to an innocent, physically healthy young woman, visiting a brothel and becoming infected with gonorrhea or syphilis which does not manifest itself until the marriage act is consummated! Think of the indescribable suffering inflicted upon the bride, who is in turn infected! Is it a wonder that many pure women club together and declare that marriage is a failure? . . . Would they not in disgust refuse to marry the best men in the universe, knowing that they had frequented brothels and slums and tasted the forbidden fruit until their systems had become charged, surcharged, and saturated with the virus of syphilis or the equally virulent and persistent germs of gonorrhea? But the unfortunate part is that the female is denied every possible means of gaining correct information upon these vital points. . . . Let us pray that the day is not far distant . . . when syphilitics and gonorrheics shall be forbidden by law to contract matrimonial alliances; and when these maladies shall be subject to enactments the same as hedge about other contagious and infective diseases.

5. A healthy man some days before his marriage (a fortnight, for example) has connection with a woman with syphilis, and receives the contagion from her. As the first symptoms of the

disease are always separated from the date when contagion was effected by a period of three weeks, on an average, sometimes a month, and even more, this man marries with the appearance of perfect immunity. It is not until from eight to ten or fifteen days afterward that the initial phenomena of infection begin to reveal themselves, under the form of one or more local erosions. So that the syphilis contracted before marriage does not reveal itself until after marriage, thanks to the prolonged incubation which always preludes its outbreak. Now, what happens in these conditions? It is that the husband, not initiated into the secrets of syphilitic incubation, and believing himself exempt from all possibility of contagion, scarcely pays any attention to the lesion which has just commenced to appear upon him. He is far from supposing that this lesion may be of a contagious nature; he mistakes it for an "abrasion, a scratch, an insignificant trifle." Consequently, he does not abstain from intercourse with his young wife, and in this way be transmits the syphilis to her. . . . The possibility of a contamination of this kind in marriage is scarcely known, and it would seem to have but little engaged the attention of clinicians. For the interests of all, it is desirable that it should become of more general notoriety.

6. I have known syphilitic husbands to not dare abstain from intercourse with their wives during a period when the contagion was transmissible, from the fear that a suspension of habitual relations might give a hint as to their disease. In order to avoid suspicion, they risk transmitting the pox to their wives! The fact is scarcely credible, but it is none the less authentic, nevertheless.

7. A nurse infected with syphilis comes into a young family, whose infant is confided to her. She infects this child. The nature of the morbid symptoms remains unrecognized at first, as would almost necessarily be the case, so that no precautions are taken against the possible dangers of such a contamination. What happens? The infant, on its part, infects (1) its mother; (2) its grandmother; (3) and (4) two nursery-maids of the family, girls of absolutely irreproachable character. And the young wife transmits the contagion to her husband some months later. Again: A syphilitic child infects its nurse. This nurse, in order to empty her breast, suckles three nurslings—all three of which take syphilis. Each of these children infects its mother; each of these three mothers infects her husband. Sometimes even (but this is only exceptional, it is true) similar cascades of contagion have made a still more considerable number of victims. Thus, one has seen a syphilitic nurse, going into a small village, trans-

mit syphilis to sixteen, eighteen, twenty-three persons, and become the origin of a small local epidemic.

8. Venereal diseases, again, are responsible for an untold amount of suffering to those infected—often innocently—and for innumerable tainted offspring. To gonorrhea alone are due most of women's pelvic troubles, and it is owing to syphilis that abortions and still-births are so common, many marriages occurring while syphilis is in a communicable stage.

9. The smallest conceivable quantity of fresh, or even dried, gonorrheal discharge carried to an eye can render it hopelessly blind within forty-eight hours. Hence the need of exceeding care requires no argument.

10. If justification were needed for the discussion of this matter, it would be found in the statistics of the German Empire for 1894. These show that of the women who died of uterine or ovarian diseases, eighty per cent were killed by gonorrhea. They further show that of the children who became hopelessly blind, after having been born with healthy eyes, eighty per cent went into a life of darkness from gonorrhea.

11. The fact that many men lose their lives, their eyes, and their minds from gonorrhea, should suffice to stamp clap as certainly far worse than a mere cold. But that innocent women and children are daily sacrificed to this microscopic Juggernaut makes clap the most dangerous disease with which humanity has to contend.

CONCLUSIONS.

1. Let not these lamentable examples be lost; let them serve as lessons to show us our professional duty, or, rather, the social duty which devolves upon us under such circumstances. If it is not in the province of men of the world and of patients to know what the effects of the pox not treated may be, after a long interval, it is our province to know this and to instruct those who are ignorant. It is our mission to enlighten upon this point patients who come to us, etc.

2. It is precisely dangers of this kind which the physician ought to foresee, when he finds himself in a position to prevent them. He recognizes these dangers; he knows that they will occur if he does not interfere; it is his business, then, to interfere in order to avert them. And here begins for him an actual duty, which, without exaggeration, I have already characterized as a social duty, since it has for aim and for result the protection of the interests of society. This duty, I do not hesitate to say, is imposed upon the physician, who would be culpable in neglecting it.

3. Where, then, lies the hope of exercising the physician's noblest duty—the prevention of disease? Simply and purely in education. We should educate our gonorrheal patients in certain incontrovertible facts, ever choosing terms within the grasp of their intelligence and education.

4. It is manifestly the duty of every layman and physician to disseminate, as far as lies in his power, the knowledge that will save many a life. Physicians, in the exercise of their priesthood, are continually working against their own interests, by teaching the prevention of disease. Thus they fulfil their highest mission.

5. The physician is the guardian of the public health. It is his duty to look after the physical welfare of mankind, but administration of drugs and performance of surgical operations do not comprise the whole of that duty. He should show his charges how to maintain healthy bodies, and teach those who do not seem to know, that violation of moral laws inevitably leads to physical suffering—that the curse of heredity is still over them. As a most important part of his duty, the physician should so equip himself that parents who desire their children to grow up into morally and physically healthy men and women may send them to him for education in the vital subject of sexual ethics and hygiene. Sexual education is neglected in the schools, and parents cannot adequately impart the needed instruction, so the children are left to pick it up as they may. How some of them pick it up is shown by tragedies too frequently made public in the newspapers. . . . Sexual education is of greater importance than vaccination. Let the physician prepare himself to impart the proper knowledge, and let no false sense of delicacy keep parents from sending their children, at the proper time, to the physician, that they may learn facts which will shield them against far greater maladies than are claimed to be warded off by vaccination.

LITERATURE.

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CONCLUSIONS.

1, Syphilis and Marriage, p. 75; 2, same, p. 184; 3, *Medical Fortnightly*, 1896; 4, *American Medico-Surgical Bulletin*, 1895; 5, *Gaillard's Medical Journal*, 1901.

# THE MEDICAL AGE.

**A Semi-Monthly Journal of Medicine.**

EDITED BY FREDERICK W. MANN, M.D.

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## EDITORIAL ARTICLES.

### POSTGRADUATE WORK.

At this season of the year, when so many young men are leaving medical colleges to enter upon practice, a few more fortunately situated than others look for some place where they may continue their studies by way of postgraduate work. To these are also to be added the practitioners who have been out for a number of years, the majority of whom find that after a lapse of time the science of medicine has progressed so rapidly as to leave them not up to date. Wishing to become more familiar with modern methods they cast about for some suitable medical center, in which they can see and learn from the leaders of the profession.

In this country there are a number of cities where excellent work can be done. New York has many schools, notably the Post-Graduate School and Hospital, the New York Polyclinic Medical School and Hospital, and the New York School of Clinical Medicine. Chicago has three schools devoted entirely to postgraduate work. Philadelphia has in its Polyclinic one of the best arranged and most complete of such schools in the world. Baltimore with its great university, Johns Hopkins, gives a course of postgraduate instruction during the months of May and June. Many students who may have time and money look toward Germany, where so much of the best scientific work is being done, as the best country in which to find what they need. To one, however, who has not a thorough knowledge of the German language, and by this is meant such familiarity with the language as will enable him to understand scientific terminology, he had best save his time and money, for he will find after a very short sojourn there that he is wasting both. To sit and listen to Virchow and other celebrated men and not to be able to follow what

they are saying is discouraging to say the least. It is the greatest mistake to expect much from German teaching, if the student is handicapped by a lack of the necessary knowledge of the language. While it is true that a great number of the younger men, especially the assistants in the various clinics, speak English, they do not do so fluently enough to be of any great assistance to the English-speaking student. Should, however, the student have a sufficient mastery of German to enable him to follow his teacher, no country offers a more rich and varied field for postgraduate work than does the "Fatherland."

In regard to France, in Paris alone can be found opportunities for this kind of work. In this country what has already been said in regard to a knowledge of the language holds equally true. In England will be found opportunities for post-graduate work second to none. In London are schools which wholly or in part devote themselves to giving instruction specially adapted for graduates. Here are also special and general hospitals which have no regular medical schools, but which offer instruction and opportunities for study to practitioners. In this city the general hospitals, having medical schools attached, allow qualified strangers to share the clinical facilities which are provided for their own students.

Of the medical centers in this country that have been mentioned, all will be found excellent. There are also some smaller cities in which good work can be found, but naturally the larger the city the greater the variety and abundance of its clinical material.

It will be readily seen that for the average medical man contemplating postgraduate work abroad London offers greater advantages, owing to the fact that he has not to master a foreign tongue, as he has to do on the Continent of Europe.

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## EDITORIAL NOTES.

### Practical Philanthropy.

The recent gift of $4,000,000 by John M. Burke, of New York, to be used to aid convalescents after being discharged from hospitals until they can care for themselves, is a fine example of practical philanthropy. No class of men see more than do physicians the need of a fund for just such persons. Many and pitiful cases are seen almost daily by medical men. Oftentimes

the breadwinner of a family finds upon his discharge from a hospital, where he may have lain for weeks with typhoid fever or a fractured limb, that his small store of savings is exhausted, and that he has not the strength nor energy to take up his usual occupation. To such as these it is intended that the interest of his great sum shall be given, and no one needs help any more than does an individual who finds himself in such a position.

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### An Excellent Achievement.

One of the most remarkable achievements in sanitary science is that which has been accomplished in rendering Havana practically free from yellow fever. The decrease in the death-rate from yellow fever in that city is due to the systematic work which has been carried on under the direct supervision of the medical corps of the army, to whom the credit must be given. It is to be hoped that the good work already done will be continued by the Cubans. This, however, is hardly to be hoped for, as it is almost an impossibility to expect people who are naturally as lazy and shiftless as are the majority of the natives of that island, to see the benefits of such active measures as those carried out by the Americans.

# ITEMS AND NOTES.

THERE are about 25,000 hospitals and asylums in the United States.

THE cruiser *Dixie* is to be transformed into a hospital ship at a cost of about $75,000.

ACCORDING to official information it is declared that plague broke out July 1 in Turkey.

THE Cuban government has appointed Dr. Charles Finlay as chief health officer of the island of Cuba.

THE ninth international congress against the abuse of alcohol will be held at Bremen, April 14 to 19, 1903.

ST. THOMAS HOSPITAL, London, recently received at the death of one Charles Gassiot a bequest of $1,250,000.

AN appropriation of $500,000 has been made for the erection in New York of a hospital for contagious diseases.

A STUDY of statistics in the District of Columbia shows a marked increase in insanity during the last year.

DR. JAMES WHITE has resigned as a member of Harvard Medical School Faculty, after a service of forty-four years.

THE Rush Medical College has decided to allow women to matriculate for graduation upon the same footing as men.

EVERY vacancy in the medical department of the navy has been filled, but the supply of surgeons is still inadequate for the service.

PROF. RUDOLPH VIRCHOW is now recuperating in the Hartz Mountains. His condition is causing anxiety on account of his advanced age.

THE Archduke Carl Theodore, of Bavaria, the distinguished ophthalmic surgeon, recently performed his four-thousandth operation for cataract.

ACCORDING to press reports ninety American soldiers have died of cholera in the Philippines since the disease first made its appearance among them.

M. Hericourt succeeds to the editorship of the *Revue Scientifique,* from which the eminent French physiologist Professor Ch. Richet recently resigned.

There will soon be erected in New York at the foot of East 23rd Street an immense bath-house that will accommodate at least 18,000 people at a time.

The trustees of the Chicago Lying-in Hospital have completed the $10,000 building fund necessary to secure the $5000 donation of Abraham Slimmer.

Important changes will soon be made in the uniforms and insignia of the medical corps of the army. Maroon will be substituted for green in the hospital corps.

Prof. Albert von Kolliker, who for many years filled the chair of histology, embryology, and comparative anatomy at the University of Würzburg, has resigned.

The Denver and Gross College of Medicine is the name formally adopted for the institution formed by the consolidation of the Denver College of Medicine and the Gross Medical College.

There will soon be open at Sharon, Mass., an institution which be known as the Sharon Biological Observatory, for the purpose of studying animal and plant life, investigating bacteria of the soil, etc.

The President has designated Col. R. M. O'Reilly to be surgeon-general of the army to succeed Colonel Forwood, who will retire September 7, after having served as surgeon-general for only three months.

The National Association of U. S. Pension Examining Surgeons was organized at Saratoga Springs June 9. Efforts are to be made to induce every one of the 4500 pension examining surgeons to join the association. Officers are: President, W. H. Howe Phelps, N. Y.; vice-presidents, W. H. Hall, C. L. Stevens, C. J. Fox, G. Lair; secretary, Wheelock Rider, Rochester, N. Y.; treasurer, C. H. Glidden, Little Falls, N. Y.

At the annual meeting of the Colorado Medical Society, held at Pueblo during the last week in June, the following officers were elected: President, Dr. W. W. Grant, Denver; first vice-president, Dr. Sol. Kahn, Leadville; second vice-president, Dr. H. A. Black, Pueblo; third vice-president, Dr. T. J. Forsham, Trini-

dad; recording secretary, Dr. C. T. Love, Denver; assistant recording secretary, Dr. J. Tracy Milvin, Saguache; corresponding secretary, Dr. Joseph M. Blain, Denver; treasurer, Dr. William J. Rothwell, Denver.

During the last thirty years a number of physicians have served in France as chiefs of the various state departments, public instruction, etc. The President of the Republic has recently appointed Dr. E. Combs to preside over the "Conseil des ministres." He is minister of the interior, and had previously served as minister of public instruction, after leaving his practice at Pons for a place in the senate in 1885. Our French exchanges observe that he was not selected on account of his profession, but that nevertheless it is a satisfaction to know that one of its members is qualified for this important post, and has been thus honored. The French legislature has now fifty-five medical members—nine per cent of the total number.—*Exchange.*

The fifteenth annual meeting of the American Association of Orificial Surgeons will be held in Chicago, September 10 and 11, 1902. A programme is being made up of lectures and papers by the leading specialists and practitioners in rectal, genito-urinary, and gynecological work, and in the treatment of all chronic diseases. The orificial surgeons are the workers in the great field of the reflexes, and the profession generally is every day being brought closer to a realization of the fact that the reflexes play a most important part in the chronic manifestations of disease. Papers and discussions will cover the entire scope of the work, preparatory, operative, and therapeutic, and the sessions will be of great benefit to all who attend. H. C. Aldrich, M.D., of Minneapolis, Minn., president; Ralph St. J. Perry, M.D., secretary, Farmington, Minn.

The International Sanitary Conference, which meets in Washington, D.C., in October, will be officially represented by the following delegates of the U. S.: Drs. Walter Wyman, Washington, surgeon-general Marine Hospital Service; J. Rosenua, Washington, director hygienic laboratory, Marine Hospital Service; H. L. E. Johnson, Washington, American Medical Association; Arthur K. Reynolds, Chicago, commissioner of health; Edmond Souchon, New Orleans, La., president Louisiana State Board of Health; J. Y. Porter, Jacksonville, State health officer of Florida; Alvah H. Doty, New York, quarantine officer; L. M. Powers, Los Angeles, health officer; Dr. Charles B. Adams, member Iowa State Board of Health, Sac City; Dr. Frank W. Porter-

field, Atlantic, Iowa; Dr. Fred W. Powers, member Iowa State Board of Health, Reinbeck; and Dr. James Taggart Priestly, surgeon-general of Iowa, Des Moines.

Up to June 29, 1740 cases of cholera, with 1385 deaths, occurred in Manila, while 9444 cases with 7038 deaths developed in the provinces. Lieutenant-Colonel Maus says that there have been probably 2000 more deaths in the provinces, records of which have never been kept. The natives, according to the *Philadelphia Medical Journal,* tried to conceal the existence of cholera, and on that account absolute authority has been given the medical officers of the army. In the city of Manila, containing over 300,000 inhabitants, the deaths in any one day have not exceeded thirty, while in the provinces the death-rate has been double this. Quarantine regulations now make it almost impossible to get in or out of Manila. Up to May 12, the provincial medical board had succeeded in keeping cholera out of the provinces of Albay, a strict shotgun quarantine having been adopted. Though the cholera has twice appeared on shipboard in ports of the province, no communication with the shore was permitted. In Colonel Maus's last report, dated May 15, the death-rate was 6.01 among the soldiers—less than for any month on record.

The following are extracts from a bulletin just given out by the State Agricultural Department of Minnesota: The opinion entertained by a great many people that whole wheat and Graham bread is more nutritious than that made from standard patent flour, the flour used in every-day baking, is erroneous. When milk was used as a ration with bread, butter, beans, eggs, and potatoes, all the protein of the milk was digested, and in addition 4.91 per cent more of the protein of the other foods with which it was combined was digested than when the milk was omitted. The highest degree of digestibility was secured in a mixed ration. Experiments made with butter showed that it has a high degree of digestibility, 98 per cent of it being available to the body. Cheese should be used in the diet regularly and in small quantities rather than at irregular intervals and in large quantities, as is frequently the case. Cheese ordinarily is one of the cheapest and most nutritious foods that can be procured. It is possible to secure a larger amount of digestible nutrients and available energy from cheese costing 15 cents a pound than from meat costing 10 cents a pound. Oatmeal, like cheese and beans, is slow of digestion, requiring much intestinal work for the digestive process; but if well prepared and thoroughly cooked it is a suitable food for persons of all habits.

# THE PROGRESS OF MEDICAL SCIENCE.

## SURGERY.

### Cyst Formation in the Pineal Gland.

J. O. W. Barratt (*Journal of Pathology and Bacteriology*, June, 1902) from his observations and studies of this subject has drawn the following conclusions:

1. Cysts were found in forty-seven per cent (eight out of the seventeen) of the human pineal examined, and were usually multiple. No definite relationship can be asserted, in the cases examined, between cystic change and age, sex, mental or accompanying visceral disease. In all except three cases brain atrophy was present; in one of these three cases a single pineal cyst was found, and cysts were absent in the other two; in the remaining cases cystic change was present in seven pineal glands out of fourteen.

2. Pineal cysts were not confined to any particular locality in the pineal glands examined.

3. Pineal cysts do not arise as well formed diverticula of the pineal recess, and are not lined by a single layer of epithelial cells in contact with each other, resembling those lining the ventricles of the brain.

4. In the formation of the pineal cyst, disappearance of the proper cells of the gland occurs at the site of the cyst accompanied by an active transudation of fluid. At the same time hyperplasia of the neuroglia fibers all round the cyst takes place. In this way a neuroglial feltwork, often abundant, especially about the larger cysts, is formed surrounding the cavity and constituting its wall. The proper cells of the pineal gland are present in this feltwork in small numbers and do not form a well defined layer.

5. No relation between the presence and amount of brain sand and cystic change was observed.

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### Fracture of the Base of the Fifth Metatarsal Bone by Indirect Violence.

Robert Jones (*Annals of Surgery*, June, 1902) believes that this fracture is very common, but does not find it referred to in surgical literature. He himself met with a mishap of this nature. The symptoms are pain when the patient endeavors to put pressure on toes or inner side of foot, when he fixes the toes, or at-

tempts to invert. The swelling is generally localized over the fractures, and pain is sharp. There is generally no crepitus, no deformity, no yielding on manipulation. The history of the accident is important, because it is sufficiently constant to form a factor in the diagnosis. It is a cross-breaking strain directed anteriorly to the metatarsal base, and caused by body pressure on an inverted foot while the heel is raised. The fracture is therefore an indirect one. The prominent base of the fifth metatarsal is closely bound to the cuboid and to the fourth metatarsal by strong ligaments on every side. So powerful are these ligaments that dislocation of the base is the rarest of accidents. It is obviously easier to break the bone than to dislocate it. When the heel, therefore, is off the ground, the body weight expends itself upon the fifth metatarsal, rotating it slightly inward. The opposition to this force takes place at its base, where the strongly attached ligaments resist its displacement. A fracture occurs, therefore, exactly where one would expect it to occur. Crepitus is not felt, probably because the line of fracture runs toward the interosseous ligament, and the fragments are therefore fixed; or because impaction may occur. As reference to skiagrams accompanying the article shows, all the lines of fracture cannot be traced quite through the bone, but there can be but little doubt that the fracture is complete. The difficulty in tracing the fracture line, added to the fact that, like a wedge, it is wider to the outer side, is suggestive of impaction.

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### The Treatment of Wounds.

E. D. Martin (*New Orleans Medical Journal*) sums up the treatment of wounds as follows: (1) Cleanse the hands by washing with soap (that manufactured by process of boiling is the only soap free from germs), and scrubbing with brush for ten minutes; then cleanse the subungual spaces, scrub again for five minutes, wash or scrub in alcohol one minute, wash in permanganate and oxalic acid solution, or solution of chlorine, for five minutes. These solutions are not necessary for the ordinary handling of wounds, and can be substituted by alcohol and bichloride 1:1000, and afterward rinsing in sterilized water. (2) Prepare the skin by scrubbing with soap and brush five minutes or more, cleanse with alcohol, and wash off with bichloride 1:1000. Cleanse the wound with peroxide and antiseptic solutions; dress according to the character of the wound. (3) Instruments are best prepared by scrubbing with soap and water

and sterilizing in a one-per-cent solution of cooking soda for at least five minutes. Dressings, etc., are prepared by sterilizing for at least twenty or thirty minutes. Moist heat (steam) is best, as it is more penetrating.

## MEDICINE.

### Diphtheria from a Bacteriological Point of View.

I. A. Watson (*Annals of Gynecology and Pediatry,* July, 1902) says that true diphtheria cannot exist without the presence of the Klebs-Loeffler bacillus, and that no case can be absolutely diagnosed as diphtheria until this bacillus has been demonstrated.

Membranous anginas of sufficient severity to cause death may be produced by the streptococcus pyogenes, the micrococcus of sputum septicemia, and perhaps by other varieties of bacteria.

Without a bacteriological examination, the form of infection cannot be determined; or, in other words, the clinical appearance of a case does not always, if ever, reveal its true character, although presumably the clinical diagnosis is correct in a majority of cases.

A bacteriological examination should be made in all cases when practicable, and negative results should not be taken into account unless two or three are obtained on successive days.

All cases having the clinical appearance of diphtheria should be treated as such from the beginning and until contraindicated by successive negative examinations. It is, of course, understood that one positive result is conclusive for diagnostic purposes.

Anginas not dependent upon the Klebs-Loeffler bacillus do not require the establishment of a quarantine, or the attention of the health officer.

Bacteriological examinations for release from quarantine would insure public protection against this disease, would shorten the average period of isolation, and materially lessen the expenses in a great majority of cases.

While laboratory examinations do not furnish an inflexible or infallible guide to the physician, they are a great aid to him in arriving at a correct conclusion in the case; in furnishing grounds upon which to make more positive assurances to the family; in strengthening his convictions as to the best line of treatment; in showing the health officer the necessity or non-necessity for isolation; in indicating when cases may be released from quarantine;

and, in fact, in placing the entire management of the disease upon a more scientific basis.

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### Pain in the Toes During Convalescence from Typhoid Fever.

Guny has made a study of this somewhat unusual phenomenon (*Thèse de Paris; British Medical Journal,* June 21, 1902). Pain is at first slight, but increases in intensity. There may be itching and tingling. Later the patients complain of shooting pains, which occur at more frequent intervals as time goes on. At first they are felt during the daytime, but later they are nocturnal as well. There is extreme hyperesthesia in the toes, to such an extent that contact with the bedclothes is intolerable. As a consequence of this patients assume curious positions to prevent pressure. Hyperesthesia becomes more marked, and seems to affect the deeper tissues. The least movement is sufficient to bring about an attack of pain. In four cases observed by the writer the pain was bilateral. Ordinary tegumentary sensations were otherwise unaffected. The incidence of this symptom was practically the same in all the cases—that is to say, from the twenty-fifth to the thirtieth day after the beginning of the disease, and when an apyrexic period had been reached. In one case only were there some slight initial symptoms before the fever had completely subsided. In the majority of cases pain in the toes disappears, though it may last some weeks. It must, however, be remembered that this symptom may be a prelude to others of a more grave character, among which may be mentioned myelitis and paralytic symptoms. It has been suggested that peripheral arteritis is the cause. Treatment should be directed toward keeping the patient quiet and the parts enveloped in warm sedative materials.

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### The Pathogenesis of Basedow's Disease.

Dr. Tedeschi (*Deutsche Med. Zeit.,* June 26, 1902) presents a preliminary report on this subject.

The author has already performed the operation on the corpora rectiformis, not on rabbits but on young dogs, which appear to be very suitable subjects.

The result was that from three to five hours after the injury to the corpora rectiformis, sometimes even earlier, exophthalmus and tachycardia came on. There were always, in addition, general tremor and polyuria, glycosuria, and copious salivation. These

symptoms increased up to the third day, and thenceforth they gradually receded. As regarded the behavior of the pupils there was dilatation, but it disappeared quickly.

The autopsies showed that the most suitable spot for setting up the above named train of symptoms was the anterior part of the corpora rectiformis just behind the tuberculum acousticum.

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## PATHOLOGY AND BACTERIOLOGY.

UNDER THE DIRECTION OF THADDEUS WALKER, M. D.
Microscopist to Harper Hospital, Detroit.

### The Cells of Inflammatory Exudations.

J. M. Beattie (*Journal of Pathology and Bacteriology,* June, 1902) says that after an injection into the abdominal cavity, various cells appear in the exudation.

In the early stages the polymorphonuclear leucocytes migrate from the vessels, and appear in great numbers in the peritoneal effusion.

These are found abundantly from six to forty-eight or fifty-four hours after the injection.

In non-fatal cases they diminish from forty-eight to sixty hours, but in fatal cases the increase persists till the death of the animal.

These leucocytes are the main bacterial phagocytes. The bacilli of tuberculosis and of leprosy seem to be exceptional, but this is probably explained by their slower growth, and consequently less marked and later polymorphonuclear leucocytosis.

During the time they are in excess there appears to be produced a substance injurious to the life, or at any rate to the activity, of the bacilli, but it is doubtful whether this is produced by these leucocytes, or by the mononucleated cells, which are also in a state of great activity.

The activity of the bacteria seems to be impaired before they are ingested by the leucocytes.

These leucocytes are largely destroyed in the fluid, either as free cells or in the interior of other cells.

The coarse granular eosinophile cells, which are very numerous in the peritoneal fluid in healthy guinea-pigs, play no important part, at any rate in relation to the bacteria used during the author's investigations.

The mononucleated phagocytes are found at all stages. They are most abundant from thirty-six hours onward. They are derived partly from the endothelium of serous membranes, of

blood-vessels, of lymph vessels, of lymph sinuses, etc., partly from the large mononucleated leucocytes, and partly from the lymphoid tissue surrounding the vessels.

They are ameboid, and show, especially during the stages of greatest activity, a marked multiple vacuolation of their protoplasm.

The vacuolation of the protoplasm is probably evidence of secretory action on the part of these cells, and not merely of a degenerative change.

These cells are specially phagocytic to other cells. They may also ingest bacteria, and certain forms apparently more readily than others. The bacilli of tuberculosis and of leprosy are found in great numbers in these cells, and they appear to actually multiply in the cells.

The ingested leucocytes undergo a gradual process of digestion of these mononucleated cells.

These cells are largely destroyed in the peritoneal sac. None of the internal organs, so far as I have been able to ascertain, appear to act as storehouses for, or destroyers of, these cells, with the exception possibly of the lymph glands.

Great numbers of the cells are always found on the omentum, These mononucleated phagocytes are the most important cells of inflammatory exudations. In cases of peritonitis the endothelium of the omentum furnishes a great number of these cells. The omentum must therefore be regarded as an important agent in protecting the individual from infection by way of the peritoneum.

The presence of large numbers of those mononucleated cells, if they are actively functioning, in inflammatory exudations, must be regarded as a favorable sign.

The plasma cells, which Mallory suggests may, in typhoid fever, produce the antitoxins, are, the writer believes, the mononucleated cells which are derived from the large mononucleated leucocytes. They can and do act as phagocytes, but in the later stages of infection this phagocytic action is not seen, simply because there is no need for them to function in this way.

They are not confined to any special form of inflammation, but are most numerous in cases of bacterial or of toxic infection.

## THERAPEUTICS.

### Further Experience with Thiocol.

Dr. J. W. Frieser (*Therap. Monatsh.*, xiv, No. 12), of Vienna, who some time ago published a report (*Therap. Monatsh.*,

xiii, No. 12) on the use of thiocol in pulmonary tuberculosis, etc., has had further experience in the use of this drug, which he details in the second report. From the numerous cases which the author treated with thiocol in more recent times he takes fifteen, and gives their history in brief, without, however, omitting any essential detail. The results were excellent in all of these cases. The author used thiocol successfully in cases of tuberculosis, bronchitis, bronchopneumonia, pleurisy, etc. He summarized his experience as follows:

Thiocol is a remedy which deserves special consideration from physicians in the treatment of pulmonary tuberculosis, and of catarrhal and chronic affections of the pulmonary tract in general. It affects favorably the local process, not only in incipient phthisis, but even in the far-advanced stages; it increases the strength, decidedly improves the appetite, as well as the digestion and the general nutrition; an improvement in the general condition of the patient and a constant increase in weight is the result. The cough and the night sweats are also influenced in a most favorable manner.

Some patients took the thiocol uninterruptedly for months without any unpleasant by-effects ever having manifested themselves. Most of the time it was administered in a ten-per-cent aqueous solution with syrup of orange peel as the corrigent. Considering all these excellent properties, thiocol deserves to take a high place in the therapeutics of tuberculosis.

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### Treatment of Optic Atrophy.

According to D. Derby (*Boston Medical and Surgical Journal*, May 15, 1902) strychnine is a stimulant to the optic nerve. Even in normal eyes it slightly increases the acuteness of vision and widens the visual field. These effects are temporary (Fuchs).

In certain cases of optic nerve atrophy its local subcutaneous injection has, to say the least, coincided with an arrest in the progress of the disease, and has been followed by a somewhat increased acuteness of vision. Whether these effects are temporary or permanent, time and fuller statistics will show.

In a progressive case of this disease it is clearly our duty to state the above facts to the patient, and allow him to take the treatment if he is so inclined.

The strychnine should always be administered in the temple, and by subcutaneous injection.

As regards the technique of these injections, make them in either temple alternately, using aseptic precautions. Begin with

.04 of a grain and add .01 daily, until constitutional effects are observed, expecting generally to reach at least the tenth injection. By that time the temples are apt to be a little sensitive, so wait ten days, and then repeat the course. In some few cases a third course of injections has been found of advantage.

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## RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

### Acute Gout of the Pharynx.

In *Annales des Maladies de l'Oreille,* etc., No. 5, 1902, the authors, Lermoyez and Gause, quote the following interesting case and give their conclusions (*Journal of Laryngology,* July, 1902):

M. H——, forty-eight years of age, had acute articular rheumatism at the age of thirteen, had since traveled all over the world, and had had most of the indigenous fevers, also syphilis; during the last fifteen years he has been well, with the exception of neurasthenia.

On the night of May 5 he suddenly developed a swelling and redness of the left tonsil, soft palate, and posterior wall of the pharynx. Skin hot; temperature 101.5°; pulse 120; tongue swollen and covered with fur; urine scanty and dark colored; swallowing difficult.

On May 8 a saline purge was given, which brought a slight temporary improvement of the pain in swallowing.

On May 10 the voice was nasal, and there was regurgitation of fluids through the nose. On the 11th Dr. Lermoyez was called in. There was no glandular enlargement, and peritonsillar abscess was diagnosed; no operation was permitted. On the 12th the condition was the same. On the 13th the swelling suddenly disappeared, without any fluid discharge, leaving only a general redness. The same night the patient complained of severe pain in his big toe, which developed into an attack of gout with all the classical symptoms. Soda salicylate and colchicum rapidly brought about a cure.

The authors point out the distinguishing symptoms of pharyngeal gout:

1. Sudden onset, acute evolution, and sudden disappearance.
2. Sharp febrile symptoms, depression.
3. Very acute pain, out of proportion to local appearances.
4. Tendency of inflammation to diffuse over pharynx and spread toward larynx, ordinary quinsy being more localized.

5. Dark red and edematous appearance of pillars of fauces, uvula elongated, and posterior wall of pharynx swollen.

6. Absence of exudation.

7. The glands at the angle of jaw not being involved.

When these symptoms are present in patients over middle age the authors suggest the early use of colchicum.

## DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,

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### Nevus Along Distribution of Nerve.

At a regular meeting of the Dermatological Society of London, England, reported in the *British Journal of Dermatology,* July, 1902, William Evans showed the following case, illustrating the distribution of the nevus along the line of the nerve: A case of extensive nevus in a woman twenty-five years old, especially marked on the left side, and involving the upper limb and the chest, where the mesial border was very well defined. The lips, tongue and tonsils were also affected. Mr. Evans said that his chief object in showing the case was to point out that the nevus affected on the left side the palmar aspect of the hand, and also the dorsal aspect of the terminal phalanx of the fingers. This is of interest, as this portion of the back of the fingers is supplied by the palmar nerves and not by the dorsal nerves; and it is a point in favor of the distribution of these nevi corresponding to the distribution of nerves.

### Bullous Quinine Eruption.

At a regular meeting of the Dermatological Society of London, England, reported in the *British Journal of Dermatology,* July, 1902, Willmott Evans reported a case of "bullous quinine eruption." The patient was a married woman about thirty-two years of age. Twelve years ago she had taken a tonic containing quinine (which she had previously taken with impunity), and a few hours later an extensive erythematous rash had appeared. Two years later, after a dose of quinine, large bullæ developed in the forearms. The present attack arose from taking some citrate of iron and quinine (probably containing from two or four grains of quinine). Twelve hours after taking it an erythema appeared on the forearms, and large bullæ appeared on the knees and feet. There was a great amount of irritation.

# THE MEDICAL AGE

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## ORIGINAL CONTRIBUTIONS.

### BRIEFS ON THE SURGERY OF THE GENITOURINARY ORGANS.

BY G. FRANK LYDSTON, M.D., CHICAGO.

Professor of Genitourinary Surgery and Syphilology, State University of Illinois; Surgeon to St. Mary's Hospital; Professor of Surgery, Chicago Clinical School.

#### Clinical Lecture on Cystitis.

This man is thirty-five years of age, in good general health, and states that he has never had any sickness until his present ailment developed. I find, however, on careful inquiry that he has suffered from severe attacks of urethritis of probably specific origin. The first of these attacks occurred five years ago, and there have been three attacks at intervals since that time. The first attack lasted six months. The next two attacks lasted respectively four and six weeks. The last attack is the occasion of his presence here. During the course of the first attack he developed symptoms referable to the bladder—pain, hematuria, frequent micturition, fever, and chills. He was ill for some weeks, and recovered completely, apparently, with the exception of a moderate increase in frequency of micturition. He states that he has been compelled to rise at night several times since. He did not attach much importance to this, however, and remained in his ordinary health otherwise until he contracted his last attack of urethritis. This developed eight or ten weeks ago, and ran the ordinary course for the first three weeks. It did not appear to be very severe, according to the patient's history. At the end of three weeks, however, he developed great frequency of micturition, with more or less blood at the end of micturition, the act being very painful. He had some fever, pain in the hypogastrium, perineum, thighs, and testes. This pain was associated with great tenderness in the hypogastrium. The bladder became

so intolerant of urine that the condition simulated true incontinence.

Rectal examination shows some tenderness in the prostate and deep urethra, slight swelling of the prostate and seminal vesicles, evidently of long standing. Pressure elicits tenderness through the bladder wall above the base of the prostate.

Examination of the urine discloses pus and an abundance of bladder epithelium. The entire bulk of the urine is turbid, pus being disseminated throughout it. There is no obstruction to urination, and the more or less recent and acute history warns us not to make any urethral or vesical explorations, if the same can be avoided, as they usually can in such cases.

The diagnosis in this case is simple enough. We have here a case of acute cystitis. If I were to follow the ordinary nomenclature, I should style it a gonorrheal cystitis, inasmuch as it has followed that disease, and is dependent upon it. It is probably due, however, as no gonococci and numerous pus microbes have been found in the urine, to mixed infection. The bladder is notoriously insusceptible to infection by gonococci, on account of the peculiar character of its epithelium. The bladder being lined with pavement epithelium and the gonococcus having a special predilection for the columnar variety, the resistancy of the viscus is obvious.

It may be well at this juncture to make some general remarks upon the subject of cystitis, or inflammation of the bladder.

Inflammation of the bladder as a primary condition is rare. The disease is almost always secondary to other affections of the genitourinary tract. The diseases to which it is most often secondary are gonorrhea, stricture, prostatic hypertrophy, traumatism of the genitourinary tract, calculus, and vesical new growths, such as simple and malignant tumors. It is occasionally secondary to tubercular or septic pyelitis. It may occur as the result of secondary mixed infection, typhoid, grippe and exanthemata. In many instances it is produced by the pelvic transmigration of the bacterium coli commune. General tuberculosis is sometimes followed by tubercular cystitis. Acute inflammation has been produced by overdoses of cantharides.

Among the causes of cystitis given by various authors on the subject are gout, rheumatism, and exposure to cold. All of these conditions, and particularly the gouty and rheumatic diatheses, favor the development of cystitis. I do not believe, however, that either diathesis or exposure can ever be held primarily responsible for cystitis. In the presence of infection of one kind

or another, however, they play a very important rôle. Instrumental trauma is often followed by acute cystitis.

The symptoms of cystitis, in a general way, are the same in all cases, with certain modifications, determined by the relative acuteness of the inflammation. The symptoms also are modified by the character of the primary condition in cases in which, as is usual, the cystitis is secondary. The symptoms may be classified as follows:

1. Those referable to the function of micturition.
2. Pain.
3. Modification of the character of the urine.

The degree of disturbance of the function of micturition depends upon the nature of the cause of the cystitis and its acuteness. The symptoms vary from a slightly increased urinary desire, with corresponding frequency of micturition, to a constant uncontrollable desire, micturition being dysuric. In some cases the bladder is so intolerant of the blood, and the posterior urethra—*i.e.,* the seat of the urinary *besoin*—is so extremely hyperesthetic, that the urine escapes from the urethra as fast as it enters the bladder, constituting a spurious incontinence.

Pain may be constant in location and severity. As a rule, however, there will be pain in the hypogastrium, radiating into the back, inner aspect of the thighs, and in the male, into the cords and testes. This radiating pain is of a reflex character. In some instances there will be considerable pain, and even tenderness, radiating along the ureter and into the kidney. The latter organ itself may be painful and tender to the touch. This is usually, although not necessarily, due to infection of the ureter and pelvis of the kidney—possibly even inflammation of the kidney tissue itself. The pain varies in its relations to the act of micturition. It is usually worse during the act, and there is more or less pain in the intervals of micturition. The pain, however, is principally at the end of micturition, at the time when the deep urethral muscles and the vesical muscularis contract to expel the last few drops of urine. The pain at the termination of urination is likely to be very acute, particularly if the bladder contains a neoplasm, or more especially a stone. The urine contains pus, and sometimes blood. The quantitative relation of the pus to the act of micturition is sometimes a point in diagnosis. When the pyuria occurs at the end of urination, it is claimed by excellent authorities that an inflammation of the neck of the bladder is indicated. It is well, however, to remember that in certain cases of bladder and even kidney disease of a surgical character, where the urine is not

evacuated at frequent intervals, the pus may gravitate to the bottom of the bladder, just as it might do when the urine is withdrawn from the body and stands in a vessel.

In a general way, however, when the urine is purulent throughout and other symptoms referable to the bladder exist, it is safe to diagnose a generalized cystitis. The blood in the urine is most likely to come with the first jet of fluid, or at the end of micturition, when the prostate and back of the bladder are grasped by the powerful cut-off muscle in the *coup de piston*. There may, however, be sufficient blood to uniformly discolor the urine, and it may vary from a slight reddish discoloration to the appearance of pure blood. In some instances the blood escaping at the end of micturition consists only of a few drops; in others it is almost jet-like in character. When the urine is uniformly discolored and at the same time markedly purulent, and especially if the case has lasted for some time, it is almost safe to conclude that the infection has extended from the bladder to the ureters and the pelvis of the kidney, on one or both sides.

In by far the majority of instances of acute cystitis the disease results by extension of the infection from the prostate and deep urethra. It is the coincident or primary involvement of these parts that is responsible for the pain and hematuria in the majority of the cases in which these symptoms are very prominent. The exceptions to this rule are mostly comprised by the cases in which the severe pain is incidental to the contraction of the viscus upon a tumor or foreign body, such as a stone.

It is claimed by some authorities that cystitis may be broadly divided in respect to its location into cystitis of the neck and generalized cystitis. I am free to say that I do not believe an acute infection ever localizes itself at the prostatovesical orifice, nor upon the vesical side of that orifice for a variable distance. Once the mucous membrane above the false sphincter vesicæ becomes the seat of an acute infection, the process usually extends rapidly, and invades, to a greater or less degree of severity, the entire vesical mucosa. I am willing to recognize the existence of cystitis of the vesical neck, providing the true neck of the bladder be taken into account. With me, cystitis of the vesical neck means a posterior urethritis at least, and in the majority of cases prostatitis of greater or less severity. Certain chronic forms of cystitis may be localized at or near the prostatovesical orifice. These cases are usually due to one of two causes, or both: (1) Extension of chronic inflammation, of infectious or other origin, from the deep urethra and prostate by continuity; (2) traumatisms of

the lower segment of the bladder. These traumatisms are most usually produced by instrumentation, either in exploration or operative manipulations of the urethra and bladder.

*Etiology of Acute Cystitis.*—As is true of all pathologic conditions, the causes of acute cystitis may be divided into (*a*) predisposing, and (*b*) exciting. The predisposing causes embrace all irritative, inflammatory, and infectious conditions of the urinary way. Idiopathic acute cystitis is extremely rare. The disease is usually dependent upon either infection from, or an acute exacerbation of, some antecedent condition. In case of acute exacerbation of chronic diseases of the urinary way, there is usually an enhancement of virulency of the infectious process, whatever it may be, and an invasion of the vesical mucous membrane, the nutrition and resistancy of which are already impaired by the irritation and circulatory disturbance produced by the chronic condition. Urethritis, simple or gonorrheal; urethral strictures, of whatever origin; prostatic disease, acute and chronic; vesical calculus; tuberculosis of the urinary way, and especially of the bladder; and traumatisms of various kinds, either operative or accidental—come into play.

Certain diathetic conditions and various dietetic excesses, especially when associated with intemperance, constitute predisposing causes of acute cystitis. Gout or rheumatism, because of the hyperacidity of the urine and irritability of the tissues in general which they produce, constitute important predisposing causes.

The exciting causes of acute cystitis are usually effective only in the presence of the conditions already outlined as predisposing causes. An extension of infection from gonorrhea may occur spontaneously, or may result from the conveyance of infectious microörganisms from the urethra into the bladder by means of the ordinary urethral syringe, by the catheter, or the sexual act. Exposure to cold has been given by some as an important exciting cause of acute cystitis. I believe it to be operable only in cases in which chronic infectious disease of the urinary way already exists. It operates first by lowering resistency of the vesical mucous membrane; secondly, by producing hyperemia of the mucosa.

A debauch is often responsible for the occurrence of acute cystitis in cases in which chronic urinary disease already exists.

Certain drugs are accredited with the occasional production of acute cystitis. Large doses of cantharides are unquestionably effective. Turpentine in large doses is an occasional cause. Some authors have attributed the disease to ingestion of large quantities of the balsamic preparations. This etiologic notion is fallacious,

and is an inheritance of the days when the micro-infectious character of gonorrhea was not known. In cases of gonorrheal cystitis, it is well to remember that the gonococcus is rarely at fault. It is the mixed infection which is responsible for the vesical inflammation. Pyogenic bacteria of various kinds attack the bladder somewhat readily. The vesical mucous membrane, however, being supplied with pavement and not with cylindrical epithelium, is relatively immune to invasion by the gonococcus. The colon bacillus is often a cause of acute cystitis. It may migrate from the bowel to the bladder.

*Treatment.*—Prophylaxis is of the utmost importance. Physical and sexual rest, unstimulating diet, and abstinence from liquor and tobacco are essential. Inasmuch as acute cystitis is so frequently dependent upon antecedent chronic urethral, bladder, and prostatic disease, much depends upon the manner in which such diseases are treated. Rough or septic manipulations in the treatment of chronic disease of the urinary way are often responsible for acute infection of the bladder. In brief, the danger of the occurrence of acute cystitis in the course of chronic genitourinary disease is determined largely by the degree of skill, asepsis, and intelligence exhibited in the management of the latter.

*Curative Treatment.*—Absolute rest is essential. This involves three points: (1)Physical rest; (2) rest of the urinary function; (3) sexual rest. The importance of fulfilling the indications in these directions is at once obvious. The patient should be put to bed and remedies given to lessen the frequency and severity of contraction of the bladder, and allay sexual irritation. Opium is the king of all remedies to promote rest of the bladder and allay the profoundly depressing and irritating effects of vesical inflammation upon the general nervous system. The importance of relieving the pain requires no comment. Opium may be given by the mouth, hypodermically, or per rectum. Where immediate action is demanded, the hypodermic injection of a full dose of morphine in the hypograstrium best serves the purpose. In a general way, however, opium acts best in acute cystitis when administered by the rectum, either in the form of suppositories or solutions. It should be given in sufficient dosage to allay pain and greatly reduce the frequency of micturition. It may be combined with gelsemium and bromides, with the view of allaying sexual irritability. These remedies are best given by the mouth.

Where the vesical inflammation is secondary to chronic diseases of the urinary way, all local treatment of the chronic condition should cease. It is desirable to asepticize the urine so far as

possible. This may be best accomplished in cases of pus infection by urotropin, in doses of five to ten grains three or four times a day. When the urine is primarily highly acid, as it is likely to be in gouty or rheumatic cases, urotropin should either be guarded by alkalines or substituted by such remedies as benzoate of soda, salol, and eucalyptus. Boric acid, in fifteen or twenty-grain doses, is often efficacious. Combinations of alkalines with the vegetable acids, such as citrate and acetate of potassium, are very useful in reducing acidity of the urine, and lessening its irritating properties. It is the general custom to give large quantities of water in vesical inflammation. This I believe to be wrong in principle. What the bladder demands is rest. The ingestion of large quantities of water imposes upon it very frequently a degree of overwork that is extremely injurious. Liquids should be taken in moderation, except such as are necessary to relieve thirst and in the form of fluid aliment to sustain nutrition.

The ideal food is milk. It must be remembered, however, that when milk does not agree it is well not to insist upon its ingestion. Very frequently, because of fermentation in the digestive tract, it produces products which are extremely irritating to the urinary mucous membrane.

The application of from six to a dozen leeches over the hypogastrium is often of signal service, particularly in patients who are plethoric. Bleeding should be encouraged by warm fomentations. Hot applications in the form of cataplasms, applied over the hypogastrium, are very useful. Where the necessary movement is not painful, prolonged and frequent hot sitz baths are of great service.

In the majority of instances, as soon as the acute inflammation has subsided, local treatment is necessary to restore the mucous membrane to its normal condition, and prevent the supervention of chronic cystitis. Irrigations with antiseptic solutions, such as boric acid, oxychlorine, permanganate of potassium, and nitrate of silver, embrace the most important remedies for this purpose. The new silver salts, such as protargol, argonin and nargol, are very useful, especially in cases of gonorrheal origin. Instillations of one or the other of the silver salts by means of a capacious deep syringe, the fluid being allowed to remain in the bladder, are of very great service.

Obviously, the treatment of the primary condition upon which the acute cystitis is an ingraft becomes necessary when the latter condition has subsided. Thus, chronic urethral infection, stric-

ture, prostatic disease, vesical calculus and vesical neoplasms require attention. In some cases the upper portion of the urinary way is involved in chronic disease, and demands treatment. Thus tubercular kidney, neoplasms of the kidney, nephritic calculus, and pyelitis, from whatever cause, may require attention.

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## THE SURGICAL TREATMENT OF CHOLELITHIASIS.*

BY DAVID BARROW, M.D., LEXINGTON, KY.

In considering the surgical treatment of gall-stones it is necessary to bear in mind the anatomical structures involved in the operation. The healthy gall-bladder can rarely be mapped out through the abdominal parietes, and the fact of being able to do so is strong evidence of some pathological condition. The ducts in their relation to each other, and the common duct in its relation to the vessels in the gastrohepatic omentum, must always be clearly pictured in the operator's mind, and the overlapping of the ducts by the portal vein must be remembered when it becomes necessary to incise the duct to remove a stone, an incision in the upper two-thirds of the cystic, and the middle third of the common duct, being the safest. The acute angle made in the cystic duct makes it almost impossible to pass a probe from the gall-bladder into the common duct, and failure to do so after opening the gall-bladder does not necessarily mean some obstruction.. The three or four lymphatic glands found in the lesser omentum, in the presence of inflammation, are often enlarged and indurated, and may easily deceive the surgeon into believing that he has impacted stones in the duct to deal with. The peritoneal reflections of the gall-bladder, the gastrohepatic omentum, and duodenal reflection, must be understood; for during the operation it may be necessary to divide one or more of these folds. When the stone is impacted in the common duct, to bring it nearer the surface may require division of the peritoneum binding down the duodenum, after which, with the finger in the foramen of Winslow, the gastrohepatic omentum being brought forward, the operation can more readily be done.

The blood-vessels supplying the gall-bladder and ducts are enlarged in the presence of inflammation, and incision of either is often attended with troublesome hemorrhage. Richardson mentions a case where death occurred nine days after the operation from secondary hemorrhage from the cystic artery.

*Read before the Kentucky State Medical Society at Paducah, Ky., May, 1902.

The large peritoneal pouch found in this region is a wise provision of nature, and renders operations upon the gall-bladder and ducts less hazardous. Into this pouch fluid will gravitate, and the end of a glass tube placed at the most dependent point will give satisfactory drainage. Also any escaping infectious material will be confined, and the inflammation resulting will be limited; or if preferred, a lumbar incision can be made for the purpose of drainage. This pouch will hold a pint of fluid before overflowing into the general cavity over the pelvic brim or through the foramen of Winslow.

However, in most of the operations in this region the normal anatomical relations are destroyed, and we will not have the normal landmarks to guide us. From an infectious inflammation involving the gall-bladder and ducts, the surrounding structures become involved, and on incising the parietes we find everything matted and unrecognizable, requiring extensive manipulation and dissection to remove the stones.

The gall-bladder may be contracted, not larger than a filbert, with thick walls; or the ducts may be dilated, making the operation difficult and dangerous. When the inflammation is extensive, it is not unusual to find adhesions involving the gastrohepatic omentum, duodenum, the pylorus, colon, kidney—in fact nearly all the structures above the pelvic brim on the right side. With these conditions, it may be extremely difficult to even find the gall-bladder or trace the ducts that the stones may be removed. Gall-stones offend in a mechanical way, and by producing infection of the bile passages, and in these operations special care must be taken to protect the surrounding healthy structures, and in preventing the spread of the infection. Occasionally, in old cases, we find abscesses in the surrounding structures, due to the extension of the infection from within the gall-bladder. To further add to the difficulty in these operations the patients are usually fleshy, with thick abdominal walls.

The indications for operation are numerous, and usually symptoms sufficient to diagnose the case as one of gall-stones will cause trouble enough to require operation. I do not mean that every case of gall-stones should be operated upon, for many of them cause no trouble, but when symptoms are present the safest treatment will be the surgical. Repeated colics, continuous pain, indigestion, septic absorption, as manifested by chilliness, fever, loss of weight, etc., intestinal obstruction, partial or complete, jaundice, when traceable to gall-stones, demand prompt surgical interference. The absence of jaundice must influence us but

little, for its presence is exceptional, but when present it makes the operation more urgent, although cholemia affects unfavorably the prognosis. All of us know that the symptoms produced by gall-stones are at times not readily traceable, and the possibility of gall-stones being responsible for obscure abdominal symptoms should ever be in the physician's mind. A prompt operation in these cases means nearly always a safe termination, for an uncomplicated operation for gall-stones is one of the safest done in the abdominal cavity. It is a mistake to suppose that gall-stones, if let alone—and any treatment other than surgical and palliative is of doubtful benefit—are not dangerous to life, that they are simply attended with much pain and discomfort, but with little danger. It is true that nature can do much, but then she often fails; and unless an operation is done death must ensue. A ruptured gall-bladder, an extensive peritonitis, an intestinal obstruction, are not such rare conditions to find dependent upon gall-stones. One condition occasionally met is acute (phlegmonous) infection of the gall-bladder, which is often impossible to diagnose, and yet extremely hazardous; and unless early operation be done will terminate fatally. It resembles much acute appendicitis, and cannot be differentiated until the incision is made. The gall-bladder may be found gangrenous and perforated, with rapidly extending septic peritonitis, which can only be arrested by quick and thorough operation. Operation in these cases is as urgent as in acute appendicitis, and the condition is equally serious. I have seen three cases of this kind, two dying before surgical treatment could be instituted, the other being saved by prompt operation. Perforation had occurred in all of them, and the septic bile had produced extensive peritonitis, as was shown by the autopsies and the operation. Bile in the urine will be present early in these cases, before there is any tinging of the conjunctivæ; and by examining the urine frequently valuable diagnostic information may be obtained, the microscope by detecting bile-stained masses giving earlier information than the chemical test.

Surgical treatment should be resorted to where:

First, the colics are frequent, or the suffering is severe, and of several days' duration;

Secondly, there is evidence of cystic or common duct obstruction, not positively due to malignant disease;

Thirdly, in some cases of positive malignancy, with the hope of lessening pain and discomfort, and to remove the stones, frequently present in these cases, or to do cholecystenterostomy for the relief of cholemia;

Fourthly, in acute infection of the gall-passages, cholecystitis and cholangitis;

Fifthly, in chronic infection of the gall-passages, as manifested by irregular chilliness and evening temperature, with loss of flesh, weakness, and partial invalidism, with previous history of indigestion and colic;

Sixthly, in a chronically distended gall-bladder, large enough to be felt through the abdominal parietes;

Seventhly, in intestinal obstruction due to gall-stones in the intestine, or to inflammation caused by gall-stones;

Eightly, in some obscure inflammation pointing to trouble in the upper right side of the abdominal cavity, we are justified in resorting to exploratory incision.

The results following operation upon the bile passages are most satisfactory. The termination of the case depends upon the time of the operation, and the complications found. If the operation is done early there will be few complications, and the patients almost invariably get well; when delayed, complications are frequent, and fatalities not unusual. Much also depends upon the existence or non-existence of infection, the character of the infection, etc. True it is that normal bile is practically aseptic, but sooner or later gall-stones will produce infection, and in most of the cases operated upon we must remember that we are dealing with septic bile passages, and guard against extension of the inflammation. The common colon bacillus, the streptococcus, staphylococcus, and the typhoid bacillus, are frequently found in the bile passages, the first being the most frequent. In acute infective cholecystitis and cholangitis the danger is great, and no matter how carefully the operation may be conducted a considerable mortality will persist. These cases may become suppurative, from which we have abscesses in the liver, peritonitis, purulent collections in surrounding tissues, and other numerous complications; so in early operation is our best hope to reduce the present mortality. In the operation, should it be necessary to incise the common duct, the danger will be greater than if the manipulation be confined to the gall-bladder. With cholemia the prognosis is not good; not only is there danger of uncontrollable hemorrhage, but the operation usually involves the duct, which adds to the danger by prolonging it, and by making extensive manipulation necessary to remove the stones. In these cases we often have malignant disease, usually the head of the pancreas, with the stones, a condition making the prognosis grave, even for temporary recovery. All of my fatal cases of gall-bladder surgery

have been of this kind, where with the stones there has been malignant disease or marked cholemia. In only one case was death caused directly by hemorrhage, the other three living for some days after operation, and dying of exhaustion. In the fatal case from hemorrhage I found no stone, but malignant disease of the pancreas, and little manipulation was done, the bleeding being uncontrollable, and continuing until the patient's death forty-eight hours after the operation.

In cholemia Osler's coagulation test of the blood should be resorted to, and the operation so timed as to add greatly to its safety. Chloride of calcium in twenty-grain doses is advised to be given several days preceding the operation, and should be tried when there is marked cholemia.

With drainage, if the bladder and ducts are freed of stones, recurrence is rare, but occasionally the stones reform and the distressing symptoms return. If the second operation is done the gall-bladder should be removed when possible, for with the tendency to recur only temporary good might follow.

The following case has given me much anxiety, and I have advised that cholecystectomy be done:

Mrs. H., aged forty years, was a great sufferer from gall-stones for a number of years. Colics were of daily occurrence, she had been jaundiced several times, and had acquired the morphine habit. Her weight was two hundred pounds, although a short woman, and the abdominal wall was quite thick. At St. Joseph's Hospital I did a cholecystotomy, removing nearly two hundred stones. The operation was without special incident; the rubber drainage tube was kept in for two weeks, the fistula closing in ten days after its removal. This patient left the hospital four weeks after the operation, everything healed and feeling well, having gotten entirely rid of the morphine. Six months after I was called to see her for an early abortion, finding her quite weak from the loss of blood. A month after the abortion she began to have colics similar to those she had before the operation, and has continued to suffer more or less pain ever since. The pains now are frequent and severe, and she is again taking frequent hypodermics of morphine. I believe the stones have reformed, and to relieve her another operation ought to be done, a cholecystectomy if possible.

Another patient had several characteristic colics some months after a cholecystotomy with removal of seven faceted stones; the last colic, being followed by jaundice, was relieved by the passage of a small non-faceted stone. Has remained well since, now about two years.

Recurrences are exceptional, however, and we expect the patients to recover promptly and permanently, and are justified in giving every assurance that relief will follow operation. In only a very small per cent of the cases operated upon do the stones reform.

Occasionally after cholecystotomy the fistula will not close, leaving the patient a sufferer from the discharge of mucus or bile. This is always annoying and occasionally causes great suffering by irritating and inflaming the skin. When the passages are freed from stones, and there is no obstruction to the flow of bile to the duodenum, and the gall-bladder is properly sutured to the abdominal wall, there is little danger of a permanent fistula. In about ten per cent of cholecystotomies the fistula persists. Mayo Robson had fourteen fistulas out of one hundred and eighty-nine cholecystotomies, nine of them being cured by subsequent operations.

A permanent fistula usually means obstruction to the cystic or common duct, in the absence of malignant disease, a stone, probably, that has been overlooked at the operation. It is impossible in some cases to be certain that the ducts are free, and that there is no hindrance to the flow of bile into the duodenum. A mistake sometimes responsible for fistula is the stitching of the gall-bladder to the skin, as was advised by Tait, and not to the aponeurosis, the proper way.

The mortality in uncomplicated cholecystotomies for cholelithiasis is almost *nil,* probably not more than one or two per cent. Of Robson's one hundred and ninety-six cholecystotomies eleven died, "five the subject of cancer, and four of infective cholangitis and jaundice," the two simple cases being in old men, one with a heart lesion, and the other developing cerebral symptoms some days after operation.

When the stones are in the common duct the mortality of course is greater. Courvoisier states that in four per cent of all cases of cholelithiasis stones are found in the common duct. Robson believes the percentage is greater, it being over thirteen per cent in his own cases. The mortality after choledochotomy is about twenty per cent—in Kehr's cases 6.6 per cent, in Fenger's 14.3, in Robson's 23.8, and in Murphy's 40.

A comparison of results in cases treated medically and surgically is almost impossible. The medical ones nearly always recover, for they are turned over to the surgeon when death is about to ensue, just in time to give the surgeon credit, unjustly, for the fatal termination. If all patients with cholelithiasis were

treated medically, and none of them subjected to operation, the mortality would certainly be far greater than at present. On the other hand, if all the patients were operated upon as soon as the diagnosis could be made, by a competent surgeon in a well-equipped hospital, the results would be more brilliant, and rarely indeed would a death be recorded. However, we must treat these cases, and it is exceptional when that can be done in an ideal way. When the surgeon is consulted, as a rule, medical treatment has been tried and has failed, there are usually complications present, and the time has gone by when an operation can be done without danger. But remember, to obtain the best results we must operate early, at a time when we can tell those interested that recovery will almost surely follow.

The success of operation for the relief of gall-stones will depend upon the location of the stones, the condition of the biliary passages, and the complications found. With the usual incision manipulation is rather more difficult than through median incision below the umbilicus, or through the incision for appendicitis, as the abdominal wall is rigid or less yielding on account of the proximity of the incision to the costal arch. The vertical incision I almost invariably make two-and-a-half to three inches long, and to the outer edge of the right rectus muscle, but the oblique or Kocher is advocated by some, and will often give better access to the duct when necessary to do choledochotomy. Either incision may be extended at any angle, and must often be quite free, that the stones may be gotten at and removed. By placing a sand-bag under the patient (liver level) the duct will be brought nearer the surface, and we will be aided greatly in the manipulation.

The operative technique in this region is the same as in other regions of the abdominal cavity, being varied slightly by the anatomical structures there found, and the extent and character of the inflammation caused by the stones.

In all abdominal operations with an infected area I advocate careful and extensive gauze packing; surround the infected structures, push aside the healthy ones with gauze towels, and extensive manipulation may be done with great safety, and if infected material escape, the gauze will prevent its doing harm. The same precautions should be taken in all gall-stone operations as in cases of acute appendicitis. When the gauze is properly placed I am master of the situation, and do not hesitate to break up extensive adhesions, and do all manipulation necessary to get at the stones or diseased structures and remove them.

Cholecystotomy is the most frequent operation done for gall-stones, and is one of the easiest and safest done in the peritoneal cavity. After incising the parietes the gall-bladder and ducts are carefully examined by introducing one or two fingers, and if stones are detected, after placing the gauze so as to catch any escaping fluid, the bladder is incised (some advise aspirating before making the incision), and the stones removed. The gauze being removed and the region carefully cleansed, the incision in the gall-bladder is stitched to the aponeurosis, leaving a rubber drainage-tube in the gall-bladder. I prefer closing the incision in the abdominal wall with tier sutures when there is no reason to hurry, leaving just room for the drainage tube—if necessary to complete the operation quickly, *en masse* sutures of silkworm-gut answer the purpose well. I usually use No. 1 chromicized catgut to fasten the gall-bladder to the aponeurosis. The drainage-tube is removed usually in ten or twelve days, depending upon the condition of the gall-bladder, when the fistula will gradually close. When the mucous membrane of the bladder is much inflamed it is well to irrigate daily with sterilized water; if in healthy condition, no irrigation is necessary.

In cases of cholelithiasis of long standing we often find the gall-bladder much contracted—so small that it is impossible to fasten it to the abdominal incision. In these cases it may be well to do a cholecystectomy; but when this is not advisable we can fasten a rubber tube in the bladder with a stitch, and by placing gauze properly, feel pretty safe that there will be proper drainage, that the peritoneal cavity will be protected, and that the patient will progress satisfactorily. Again, in some cases, we will be able to fix the bladder to the peritoneum by separating the peritoneum for an inch or more around the abdominal incision, making a funnel-shaped cavity, after the incision in the gall-bladder and peritoneum are united.

The so-called ideal operation, suggested by Langenbach—suturing the incision in the gall-bladder, and returning it to the cavity without drainage—should rarely be done. There is greater danger than in the usual cholecystotomy, and it is exceptional to find a condition justifying this procedure. Block suggests doing the operation in two stages: cutting through the abdominal wall until the peritoneum is reached, and then packing with gauze, waiting for adhesion to form before opening the gall-bladder. This will be indicated only, as suggested by Robson, in cases where there is cholemia, the hemorrhage being more easily controlled than in the usual cholecystotomy. There are many

apparent objections to this operation, and only in some of the cholemic cases should it be resorted to.

When the stone is in the cystic or common duct we sometimes succeed in crushing (cholelithotrity), or pushing it backward into the gall-bladder. When this cannot be done the duct must be incised (choledochotomy). This may be quite difficult, and often requires much patient and persistent work. After the stones are removed it matters but little whether the duct be sutured —if it can be readily done it is best to suture, but where there is much trouble, as is usually the case, we can leave the incision unclosed, feeling safe if a drainage tube and gauze are properly placed. If the patient's condition is extreme we may be unable to relieve the obstruction, and under such circumstances an anastomosis may be made between the gall-bladder and intestine (cholecystenterostomy), or between the dilated duct and the intestine (choledochenterostomy).

McBurney advises incising the duodenum and dilating the duct, when the stone is impacted in its duodenal end (duodenocholedochotomy). In his six cases he lost one, and this one died of prolonged vomiting from an old irritable stomach.

Cholecystectomy is often indicated, and is being more frequently done by some operators. After separating the bladder from the liver the peritoneum of the cystic duct is incised circularly, and the duct pulled out and ligated with catgut. When the gall-bladder is much diseased, and the ducts are free of obstruction, this seems to be the best operation.

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## APPENDICITIS.

BY HAL C. WYMAN, M.S., M.D.,

Professor of Surgery, Michigan College of Medicine and Surgery, Detroit.

At a meeting of the Michigan State Medical Society a back-country doctor from the lumber woods was asked by a young assistant from one of the big Detroit surgical clinics what he thought about internal operations, and when was the proper time to operate for appendicitis, generally. The inquiry was made patronizingly and in a spirit of facetiousness. "When one practicing in the great lumber camps of our forest regions speaks about this disease the surgical world will listen."

"Yes, we see some cases of inflammation of the bowels, for which we have a wholesome dread. If we do not operate upon these cases directly the perforated appendix is discovered by

palpation and the history of the attack, we lose them. But there are other cases of a milder type in which the perforated organ is felt enveloped in an abscess. These we operate on and evacuate the pus, and if the organ is free and easily accessible in the abscess cavity, we take it out. We do not expect to lose many such cases, because our patients are generally hardy young men, and we operate on them in their homes, boarding houses, and camps, wherever we find them. Our people are not afraid of their sick friends. Nor are they desirous of shirking the natural responsibilities of sickness. They love one another, and when one is sick, all are ready and willing to do what is best to do for his recovery. They are used to plain living and simple care. Our doctors always find splendid nurses among them. So many of their friends have been brought back from the city hospitals to be buried that they have learned to know that the best place to be operated upon for appendicitis is in one's home—even if it is a camp.

"The hospital of the cities is all right for the purposes for which it was intended, a place to care for the sick who have no homes and no money. But when it attempts to supplant the home as the best place to practice surgery, it is all wrong. A surgeon who cannot do as good and safe an operation in the sick man's house as he can do in the best public hospital ought to be compelled to spend the remainder of his days in instructing the people of this smiling land how to improve their homes." And the woodman continued: "I must be clear on this point, for I believe that the mortality rates of city hospitals are frightfully increased by operations upon patients who have been hustled out of their homes and taken to the hospitals. Surely no man of sober thought will say that the sick man's chances of recovery from the illness due to an ulcerated and perforated appendix veriformis are improved by a jolting journey by rail and ambulance.

"The question of when to operate for appendicitis has been subverted by the question, Where to operate?

"I can readily see that a nice point might come up in connection with the first question, but the second one involves a different proposition and means really two things, viz: are the surgeons who practice at our bedsides competent to do this operation? and are the people of the homes willing and competent to give the patients a few days of care and attention that are needful for their recovery?

"All the talk so freely indulged in about antiseptic prepara-

tions is merely begging the question, for a bedroom or a kitchen can be made suitable for surgery just as quickly as a hospital ward or operating-room.

"I like to visit the hospitals and big clinics when I go down to Detroit to buy medicines and dressings. The autopsies are always interesting and instructive. There is one man there who can eviscerate an abdomen with one stroke of the knife, and his discourse on lesions and history of the case is the best I ever heard."

When to operate is determined by the conditions of the case. If there is pus, operate. If there is fever and vomiting, operate. Obstruction of bowels gives the key to urgency for operation. Consequently, in the treatment by anodynes, be cautious not to mask the symptoms so that an obstructed intestine will be overlooked. Often a fatal termination is due to a single leaf of bowel compressed by inflammatory products about a diseased appendix.

An operation, if made early, obviates this danger. I do not think many cases of appendicitis end in death when the bowels are obstructed.

A twice honored rule of practice is to discover, if possible, the way an illness is most likely to destroy the patient, and do everything that promises to avert the tendency to death. It is the regurgitant toxines in the intestines that kill in obstruction of the bowels. Therefore, operate to anticipate that condition when the story of the case and the physical signs say it threatens.

And what of the story. A patient sick—sick enough to call a doctor, pain anywhere in abdomen, and sometimes severe, interrupted attacks of it, but nearly always in the right iliac fossa. Pulse disturbed and quick—the pulse of inflammation. Temperature may or may not be elevated. Respiration more or less hurried and related to the pulse. Sometimes the story of the case includes a long recital of vague dyspeptic symptoms.

The physical signs are usually localized tenderness in the region where pain is located. There is also more or less muscle resistance to the hand or finger feeling and pressing the affected region. Sometimes it will vanish for an instant and the feeling finger will drop to the floor of the iliac fossa and distinctly trace the area and boundaries of the inflamed appendix with accompanying serum pus and adhesions. In such a case, operate, and relieve the deep tendon before the situation is complicated by obstruction of the bowels. But do not put such a case on a train or in a vehicle and rush him to a hospital. The journey may do him grave injury. Better to clean his abdomen with soap, sub-

limate, and alcohol; get clean, fresh sheets, sterilize your instruments, and be sure to clean your hands as you do the patient's abdomen.

Then operate by cutting directly down upon the mass you feel in the abdomen below your fingers. Relieve the tension by evacuating any inflammatory fluids. Now introduce your finger, and if you can readily bring up the offending appendix do so, tie it close to the cæcum, and cut it off. Close the wound with a short drainage tube so located that it will most efficiently perform its purpose with the least danger of irritating coils of intestine. If the appendix is inaccessible, being bound too deep or behind the cæcum by adhesions, and you have opened the way for free discharge of accumulated fluids, rest content—even at the risk of doing a subsequent operation in case progress to recovery is not satisfactory.

If you have a case who already has the vomiting peculiar to obstructed bowels when you operate, you must restore the normal current of the intestinal stream by freeing the adherent and compressed coils of intestine, and if that is impracticable, an enterostomy or intestinal fistula must be made.

These procedures may be difficult. They must not be nullified by packing so much gauze into the wound during the dressing that the intestine is again compressed.

Nor shall you poison your patient with narcotic doses from your hypodermic syringe, simply because his pulse flutters and he grows pale when the adherent bowels are separated to permit the onward flow of the intestinal contents. Better to use strychnine and calomel and moist heat to stimulate a flagging heart muscle and overwhelmed organs of elimination.

There is no reason for assuming that peritonitis caused by a leaky vermiform appendix is different from other peritonitis, except in its causation. There the matter ends, unless one has a case on which he proposes to perform a surgical operation. Then it is necessary to know, approximately at least, just what lies in the affected region and how best to circumvent the damage carried by it. An ideal operation contemplates the removal of the cause of the peritonitis, and so does an ideal operation in cerebral surgery contemplate the removal of the cause of compression of the brain, but it does not follow that one must remove the whole calvarium. Elevation of the depressed fragment of bone, or removal of clot, pus, or tumor, commonly suffices to restore the functions of the brain. In the same sense one should remove the appendix, if its presence is a continued menace to the recovery

of the patient. Unyielding principles should actuate the surgeon in all cases of peritonitis, but every case does not demand the immediate removal of the appendix vermiformis, even when there is no other cause of the disease.

In every section of our country are surgeons who see all of the disease and they recognize a number of different causes. Some who are not as cautious and discriminating as they might be advise an iron-clad rule of practice and operate on every case as soon as they can get it to the hospital. Others let their patients die under a senseless procrastination, sometimes miscalled conservatism.

The profession generally has little sympathy or respect for men who allow the golden moment for the performance of safe and clearly indicated operation to pass by, unheeded and unused. It expects its members to determine beyond any reasonable doubt that they have to deal with a case in which the morbidity of the appendix has caused peritonitis; then they should proceed to operate on the patient in his home and with as little ceremonial flourish as possible.

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THE sanitary condition in Havana is fast becoming what it was before the coming of the Americans. The splendid system inaugurated by General Ludlow is being superseded by one as lax as his was stringent. The prominent thoroughfares and conspicuous parks are of course receiving attention. The back streets, markets, back yards and sewers, where the real danger lies, are being neglected, however. Plumbing is no longer being done as it was before May 20th of the present year. Then the engineer and sanitary departments were kept busy, and owners of places were forced to comply with the requirements, which freed the city from pestilence and made it one of the most healthful places on the globe. The first month's regime has seen the death-rate of Havana increase enormously, and the conditions which existed prior to 1899 are gradually but surely returning. The government pleads poverty, thus the impossibility of maintaining the standard where Americans left it. The Platt amendment provides specifically that the same standard of sanitation inaugurated by the government of intervention must be maintained by the Cuban authorities, and it is probable that a vigorous protest will be sent to Washington. During the week of June 21, a break occurred in the 42-inch main of the Havana water-works, depriving the city of fresh water for nearly a week. Old cisterns and wells were used, and it is feared that typhoid fever and other diseases will result.—*Philadelphia Medical Journal.*

# THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

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## EDITORIAL ARTICLES.

### THE PROGRESS TOWARD INTERSTATE RECIPROCITY.

In his presidential address before the American Medical Association Dr. John Allan Wyeth expressed the opinion that the movement toward interstate comity in the license to practice medicine is scarcely second in importance to the reorganization of the American Medical Association. The house of delegates of the American Medical Association referred the subjects of interstate reciprocity and of a voluntary national examining board to a committee of five well known physicians. Those in favor of a voluntary national examining board admit that the examination shall be conducted in a way that is equal or superior to the examination in the State which submits the applicants to the severest test. It is further thought that this examination must be practical. While it must be confessed that such a voluntary examining board is very desirable, the difficulties which must be encountered must also be considered. In the first place a practical examination that must be regarded as reliable takes much time. This would involve a large examining board, which must be in session for a long time, if even only a reasonably large number of applicants are examined. Secondly, very radical changes in the medical practice acts are necessary, if the effects of a national examining board are expected to be of the utmost benefit to the whole country. The agitation for such a board should be kept up, however, as it will undoubtedly bear good fruit. For the present the movement toward interstate reciprocity, which has already shown such promise, should be furthered by all means. It has resulted lately in the formation of the American Federation of Reciprocating Medical Examining and Licensing Boards. The more boards, societies, and individuals take an active part in the

movement the sooner may be expected beneficial results, not only to the medical profession but also to the public.

## EDITORIAL NOTES.

### Mosquitoes Killed by Fungus Disease.

During the present summer a series of investigations have been carried on at the Michigan Agricultural College by Prof. R. H. Pettit looking to the acquiring of efficient methods of dealing with the mosquito nuisance. One of Prof. Pettit's assistants in charge of the field work has recently made an interesting discovery. He found on examination of one of the mosquito-breeding ponds a pool, the banks of which were lined with the bodies of dead mosquitoes, killed by a fungus disease. This disease is one closely related to the one that kills flies in the autumn, attaching them to window panes. The mosquitoes are attached to the surface upon which they die by filaments of the fungus extending from the body of the insect, which filaments bind it firmly in place. The body of the insect first becomes fully occupied by the vegetative mycelium of the fungus, after which the growth appears on the outside, completely covering the mosquito with a white shroud. Upon the surface of this white covering, spores, which serve as seeds, are borne and forcibly ejected into the air for some distance, and coming in contact with other mosquitoes infect them. An attempt is being made to introduce the disease into other ponds to determine whether it can be disseminated and made of practical value in abating the mosquito nuisance.

### The Holiday Season.

This season of the year, which is made the vacation time by almost all workers, should remind the medical man that he too needs rest and relaxation. No one needs a respite from work more than the general practitioner, whose life is made up of physical strain and mental anxiety. Dr. J. H. McBride in a recent number of the *Journal of the American Medical Association,* makes the following instructive observations: "The possession of certain mental qualities in a high degree may render one more liable to brain exhaustion. I have known people who, though mentally and physically vigorous, became the subjects of brain exhaustion from the fact of their having an unusual ability for close mental application so profound and intense that they would

go beyond their limit without knowing it." This fact is as surely true as it is usually unrecognized. And when such persons are simultaneously exposed to strains of physical exertion, stresses of wind and weather, and the harassing endeavors to please an implacable public, how deplorable the result is likely to be! Perhaps the best approach to a specific prophylactic in all such cases will be found in the careful obedience of the commandment, "Remember the holiday to keep it holy."

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### Tobacco Rendered Non-injurious.

From time to time there appear in the daily press accounts of processes for the making of tobacco harmless. The latest experimenter hails from Halle, Germany. Gerold claims to have succeeded in neutralizing the injurious principles of tobacco without injuring the flavor. The method as given in the May number of *Cosmos* is as follows:

"The leaves are treated with a solution of tannic acid, which has the property of fixing alkaloids so that the nicotin and the essences contained in the plant, such as nicotianin, etc., are neutralized and rendered inoffensive. It would appear that this operation does not cause the tobacco to lose its flavor. To renew the perfume dear to the smoker, which is injured by the tannin, the tobacco is then soaked in a prepared concoction of the plant Origanum vulgare (wild marjoram)."

If, as is claimed for this process, it removes all toxic properties from tobacco, it will certainly prove a boon to many who at present are unable to indulge in the fragrant weed owing to the ill effects it has upon their hearts.

# ITEMS AND NOTES.

THE plague in India has greatly decreased.

PROFESSOR VON WINKEL has just been elected rector of the Munich University.

CHOLERA is epidemic in Manchuria, and has now broken out in Astrakhan, Russia.

STATISTICS of the fatal accidents in the Alps for the past ten years show a total of 275.

CHOLERA has appeared in all quarters of Cairo, and temporary hospitals are being erected.

PROFESSOR VIRCHOW has recently had another fall, and is seriously ill from the consequences.

ACCORDING to Sweden's last census that country has the lowest death-rate yet attained by any nation.

REGISTERED physicians in Massachusetts are said to number 4500, an average of 1 to every 625 inhabitants.

THE annual meeting of the National Prison Association will be held in Philadelphia September 13 to 17, 1902.

THE first Chinaman to receive a diploma from an American medical college is Dr. Yung Wing, who graduated from Yale in 1854.

DR. F. H. BAETJER, of Johns Hopkins Hospital, has been sent to Europe by that institution to study the *x*-ray treatment of cancer.

THE sixth annual meeting of the Congress of Hydrology, Climatology, and Geology will be held in Grenoble, France, September, 1902.

DR. SYMANSKI, of Russia, has proved that tetanus toxin will long resist putrefaction, he having discovered it in a dead body thirty-six years after burial.

THE oldest medical society in this country, and one which is still in a state of activity, is the Litchfield Medical Society of Connecticut, which was founded in 1765.

A PHYSICIAN of Winchester, Tenn., Dr. E. A. Drake, is reported to be the inventor of a flying machine that will cleave the air at a speed of over two hundred miles an hour.

PROF. LANNELONGUE, of Paris, recently made the statement that the Egyptian mummy of the eleventh dynasty, dating back 5000 years, showed the result of an operation for appendicitis.

DOCTOR SCHWENINGER, who was physician to the late Prince Bismarck and for several years past professor of dermatology at the University of Berlin, has been removed from that position.

DR. GEORGE H. SIMMONS, editor of the *Journal of the American Medical Association,* who was recently operated upon for gallstones, is making steady progress toward satisfactory recovery.

AT Mattley, Worcestershire, a woman of 36, whose husband is over 60, was delivered of a male child April 9, totally without arms, legs, or thighs. The child is living and appears healthy.

DR. C. GEBHARDT, professor of internal medicine and director of the second medical clinic in the University of Berlin, privy councillor, and member of many important societies, died at his residence, Schloss Gamburg, Baden, Germany, July 21, in his seventieth year.

THE Wayne County Medical Society and the Detroit Medical Society were consolidated July 25th. Instead of being purely local, the new organization will have a national scope. The new society continues under the name of the Wayne County Medical Society of the City of Detroit.

THE *Lancet* reports that the government of the Federated Malay States has established in Kuala Lumpur, the capital, a research institute which is open to all workers, irrespective of nationality. It is fully equipped for the study of special and general pathology, clinical medicine, and for experimental physiology and bacteriology. Students of tropical medicine will there find ample field for work.

The commission in charge of the construction and maintenance of the proposed State hospital for consumptives to be located in the Adirondacks met in Albany on July 30 and approved the plans for a two-story brick and stone building, to be constructed on the pavilion plan, with an administration building in

the center. The hospital is to accommodate a hundred patients, and is to be located at Baybrook, Essex County, between Lakes Placid and Saranac. It is to be started under the appropriation of $100,000 made by the legislature, it being the expectation that work can be begun this fall, so as to have the building ready for occupancy next year.—*Medical Record.*

A MONUMENT has been raised on the grounds of the Institute for the Rachitic at Milan in honor of Dr. Pietro Panzeri. It is by the sculptor Luigi Panzeri, and shows a bronze half-length of the celebrated specialist holding a child in his arms. The child's head is hanging down, and it is crying with mouth wide open, while the physician is observing the movement of its legs preparatory to diagnosis. Panzeri was one of those who fought under Garibaldi, so there is a standard with sword and Garibaldian cap, all in bronze, lying on the steps below the pedestal. Dr. Panzeri died last year at the institute, where he had labored for fourteen years.—*New York Medical Journal.*

*American Medicine* states over 8,000,000 persons in Germany are insured against illness. Regarding the amount of insurance on King Edward, it is said that if he had died at the time of the operation British companies would have lost $100,000,000. "There is no such thing in the United States as insuring a second person, and if such a line of business ever was thought of by our great leaders in insurance, the exceedingly narrow escape of the British companies has chilled the notion. It is to be hoped that our home companies will never indulge in such insurance, no matter how great the profit. So doing tempts murder and anarchy. A great many thoughful moralists are objecting to child insurance, on the ground that it induces cruel mothers to neglect or directly kill their infants for immediate gain."

GERMANY, France, and the United States give large sums for the study of tropical diseases, but the British government has hitherto preferred to leave the provision of the necessary funds to private individuals. The schools of tropical medicine in London and in Liverpool depend entirely on the liberality of individuals, whose patriotic action does not always receive the recognition it deserves. An antimosquito campaign is now being carried on in many portions of the globe. The mosquito is known to transmit malarial infection, and efforts are being made to exterminate the Anopheles. Mr. Chamberlain has approved the vote of funds by the Legislative Council of Sierra Leone for

the immediate surface drainage of a swampy portion of the Grassfield district, in which Dr. Logan Taylor, of the Liverpool school, has been at work.—*London Chronicle.*

Dr. Russell Wilson, a physician of Milan, O., is in a Nicaraguan prison charged with taking up arms against that government, and his friends are making every effort to obtain his release. The State Department, says the *Medical Record,* has telegraphed the United States consul at San Juan Del Norte (Bluefields) to care for the interests of Dr. Wilson and to send a full report about his case. Dr. Wilson was one of a party of Nicaraguan insurgents landed near Bluefields. A storm prevented the landing of the entire number, and those who went on shore were captured. Dr. Wilson was taken to Bluefields, where he was tried by a court-martial and condemned to death, but the President of Nicaragua commuted his sentence as a mark of courtesy to the United States. His case was made worse by the belief of the Nicaraguan Government that he participated in a former filibustering expedition in 1899. This, however, is disproved by the fact that he was a student in the medical department of the Ohio University in that year and was not graduated until 1900.

The annual spring meeting of the Central Committee of the Swiss Medical Congress was held at Bern, May 30 and 31, at which 200 medical men were present from various parts of Switzerland. Professor Kocher demonstrated, says the *Philadelphia Medical Journal,* a large number of surgical cases at his clinic. After having shown these cases, he concluded with an address on the operative results of diffuse peritonitis. He also spoke upon operation in exophthalmic goitre, showing a half-dozen cases. Professor Sahli spoke on the diagnosis and treatment of aneurism of the aorta, disapproving strongly of gelatin injections. He discussed the diagnosis of diseases of the gastrointestinal tract in detail. The new children's hospital was shown by Professor Stoss, who spoke of infantile scurvy, which is rare in Switzerland. He showed an interesting form of skin tuberculosis in infants. Professor Kocher reviewed the subject of primary tuberculosis of the intestine, having collected eighty cases. He reported twenty-nine cases, on twenty-one of which he had operated. He advised sterilized milk for patients with intestinal ulceration, probably due to tuberculosis. Drs. Girard, of Bern, and Muller, of Basel, spoke upon the legal and ethical sides of the question of professional secrecy.

# NEW PUBLICATIONS.

## SCHAFER'S ESSENTIALS OF HISTOLOGY.

Prof. Schafer's Essentials of Histology, which is now in its sixth edition, has been repeatedly commended as "the book from which the student can most easily acquire a fundamental knowledge of its subject." This is not only a graceful and deserving tribute to the author's art of putting things, and his knowledge of the difficulties of the student, but a pointed suggestion to instructors in the subject in the direction of ease and efficiency in teaching. The new edition shows a thorough revision, considerable increase in size, and the addition of many excellent engravings. Recent achievements in histological knowledge have rendered necessary a complete rewriting of many sections (notably those on the structure of the central nervous system) and the addition of much new matter. The work aims to cover all the essential facts of histology, omitting unimportant details, the discussion of which would only confuse the student.

The Essentials of Histology, Descriptive and Practical. By E. A. Schafer, LL.D., F.R.S., Professor of Physiology in the University of Edinburgh; formerly Jodrell of Physiology in University College, London. New (6th) Edition, Revised and Enlarged. In one octavo volume of 426 pages, with 463 illustrations. Cloth, $3.00, net. Philadelphia and New York: Lea Brothers & Co.

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## A BRIEF OF NECROPSY AND ITS MEDICAL AND LEGAL RELATIONS.

This pocket manual has been prepared to meet the special needs of physicians, lawyers, and expert witnesses. It supplies in brief form and yet with every essential detail all practical facts connected with the study, diagnosis, technique, and the medical and legal aspect of a post-mortem examination. By reason of its size Dr. Schmitt's little manual can always be slipped into the pocket and serve as a complete guide for whatever emergency may arise. The study of this little manual will prepare the physician to give testimony, and so save him from the badgering of attorneys and the criticisms of the general public.

A Brief of Necropsy and Its Medico-Legal Relations. By Gustave Schmitt, M.D. 3 1/3x6¼ inches, leather, 186 pages, $1.00, net. New York and London: Funk & Wagnalls Co.

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## THERAPEUTICS, PREVENTIVE MEDICINE, CLIMATOLOGY, AND FORENSIC MEDICINE.

This little volume, which is the seventh of the Practical Medicine Series, is edited by George F. Butler, Henry Favill, Norman Bridge, and Harold N. Moyer, respectively. It covers in a clear and concise manner all the essential facts in regard to the subjects contained therein. Like the other books of this series, it will be found a useful addition to the library of the general practitioner.

The Practical Medicine Series of Year Books. Volume VII. Chicago, Ill.: The Year-book Publishers.

# THE PROGRESS OF MEDICAL SCIENCE.

## SURGERY.

### Brain Abscess of Otitic Origin.

W. P. Eagleton (*Medical Record,* Aug. 2, 1902) at the recent meeting of the Medical Society of New Jersey read a paper under this title, reporting two cases. He said that a search through the literature showed that chronic suppuration of the ear was responsible for 84 per cent and acute suppuration for the remaining 16 per cent of the cases. Cerebellar abscess for some reason was apt to be multiple, and this fact explained many failures of operation. A large proportion of the cases were chronic, often remaining quiescent for months or years, and giving rise to few if any symptoms. In one case the only symptom was pain in the head over what proved to be the seat of the abscess. In another case severe neuralgia of a molar tooth was the only symptom for a long time, and subsequently each dressing produced this same pain in the tooth. The brain tissue surrounding the abscess was sometimes the seat of multiple hemorrhages. Among infants, slight fever and gradual loss of flesh were often the only symptoms. The so-called localizing symptoms were unreliable. Outside of aphasia, which was present in 30 per cent of the cases of temporosphenoidal abscess, these symptoms should not be relied upon. Operation should be done just as soon as the diagnosis has been made. The urgency of such cases was well illustrated by one of the cases reported, and by the fact that in a number of other cases the patients were already in the hospital, and the operation was fixed for the following day. In operating, the fact that in the majority of cases it is exploratory should be kept constantly in mind. Thus, in about 10 per cent of the cases operated upon the symptoms caused the surgeon to suspect the abscess to be localized in one fossa, when as a matter of fact it was in the other fossa. Of the cerebellar abscesses, 32 per cent gave symptoms, such as paralysis of the arm, eye, hand, or leg. Out of the one hundred and one operative cases, failure to locate the pus on exploratory operation occurred in 21 per cent. This was owing to the fact that the pus was so thick that it would not pass through the aspirating needle, or to the fact that the capsule of the abscess was unusually thick and resistant. In some instances

even a director had passed through an abscess cavity without pus being detected. The surgeon was therefore justified in passing his finger into the brain substance when the abscess could not be detected by other means. It was important in operating to make a sufficiently large opening to secure perfectly free drainage. The opening in the brain should always be large enough to admit the finger of the operator for the purpose of exploration, and this having been done, it should be further enlarged in whatever direction would secure the best drainage.

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### The Surgical Treatment of Tuberculous Cervical Adenitis.

J. F. Mitchell (*Johns Hopkins Hospital Bulletin,* July, 1902) says that tuberculous cervical adenitis is primarily a local disease of very frequent occurrence, more often in young persons; in itself not extremely serious and rarely if ever proving fatal. It bears, however, a certain definite relation to tuberculosis of the lung, and serves as the starting point from which tuberculosis may spread.

The tuberculin test as an aid to diagnosis is positive and harmless.

While recovery may often take place under good hygienic conditions, surgical interference is clearly demanded in most cases.

When surgical treatment is resorted to the operation should be radical in all cases.

Recovery may be predicted in 70 to 80 per cent of cases so treated. Tuberculosis of the lungs after complete removal of the glands is comparatively rare.

Tuberculosis of the lungs, unless far advanced, is not a contraindication to operation, the removal of the glands apparently exerting a beneficial influence on the condition of the lungs.

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### Intestinal Obstruction.

E. A. Ballock (*American Medicine,* Aug. 2, 1902) has, from his experience with intestinal obstruction, drawn the following conclusions:

1. Early diagnosis is the main factor in the saving of life in cases of bowel obstruction.

2. Acute intestinal obstruction is characterized by symptoms which should be recognized with reasonable certainty in the majority of cases.

3. If obstruction probably exists, cathartics should be withheld.

4. Chronic, slowly increasing obstruction may at any time become acute.

5. Surgical advice should be sought early.

6. In true obstruction the only remedy is surgical intervention.

7. The choice of operation depends upon the condition of the patient.

8. Whenever possible, the cause of the obstruction should be radically removed.

9. Beyond question, in the last stages, and probably in doubtful cases, the proper plan is to establish a fecal fistula and thus gain time to get the patient in condition for more radical operation.

10. General anesthesia is a distinct element of danger in operative cases, and when a fecal fistula is to be esablished, local anesthesia should be used by preference.

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### Causes of Cancer.

R. Reyborn (*Medical Record,* Aug. 2, 1902) says that cancer is a disease of senility of the tissues, or at least occurs at the time when the retrograde metamorphosis of the tissues is taking place.

Cancer is comparatively rare in hot climates, and especially where the diet of the inhabitants is composed chiefly of rice or other starchy foods.

Cancer at the present time is very prevalent where animal food is largely consumed; the number of cases of cancer has been found to increase in proportion to the increase in the consumption of nitrogenous or animal foods.

The theory of Gaylord that cancer is caused by a protozoön or animal microörganism seems to be disproved by later investigations, and the probability is that cancer is simply erring epithelium which has taken on an abnormal growth and development.

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## MEDICINE.

### Physiology and General Pathology of Vomiting.

Janowlikis (*Sammlung Klinischer Vorträge Voltman, No.* 333, 1902) classifies vomiting etiologically as follows:

(A) Vomiting of Central Origin.—I. Vomiting due to intoxications (1) through substances produced by the organism itself, as in uremia; (2) through substances transmitted to the organism from without, such as alcohol, morphine, apomorphine, chloroform, snake venom, etc., or those produced by pathogenic organisms, as in scarlet fever, typhoid fever, diphtheria, etc.

II. Vomiting due to intoxication of the center, and pressure upon the same simultaneously, as in infectious disease of the brain (encephalitis, abscess, etc.) and the meninges.

III. Vomiting due to pressure upon the center alone, as in tumors of the cerebrum, or inflammatory and edematous conditions.

IV. Vomiting due to the variation of the blood-supply to the brain, as in concussion of the brain, seasickness, insolation, Ménière's disease, occasionally in Basedow's disease, etc.

V. Vomiting due to psychic influences upon the center of vomiting, transmitted through the sense of smell, taste, etc.

(B) Vomiting of Reflex Origin.—Due to an irritation of the (1) base of the tongue, (2) pharynx, (3) larynx, (4) trachea, (5) bronchi, (6) lungs, (7) esophagus, or (8) stomach (the last named may be due to (*a*) diseases of the stomach, as ulcer, carcinoma, pyloric stenosis, hyperacidity, hypersecretion, dilatation, acute inflammation, chronic inflammation, nervous dyspepsia, etc.; (*b*) emetics of all sorts), (9) diseases of the duodenum, (10) the intestines, (11) the bile-ducts, (12) liver, (13) pancreas, (14) suprarenal capsules, (15) kidneys and ureters, (16) the uterus and its appendages, (17) inflammation of the peritoneum, (18) affections of certain nerves, as the vagi.

(C) Vomiting of Mixed Origin.—This form, in different cases of the same disease, is at one time central in origin, at another reflex. In this list may be included the vomiting in hysteria, migraine, neurasthenia, poisoning by nicotine and alcohol, Basedow's disease, gastric crisis in organic disease of the spinal cord, chlorosis, anemia, acute tuberculosis, and rickets.

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## Fatty Degeneration of the Myocardium.

Fatty degeration of the myocardium is, according to J. M. Cowan (*Journal of Pathology and Bacteriology,* June, 1902), of common occurrence. While marked cases give notable evidence of the change on microscopic examination, in a majority it can be only diagnosed with certainty on examining sections which have been fixed in osmic acid.

Three forms are met with: In one, the fat is irregularly distributed throughout the muscle, occurring especially in those parts which are relatively ill supplied with blood; in the second, the change is diffuse, and is produced by a toxic condition of the blood-stream; intermediate cases may be met with in which both causes are present. The third form is due to local toxic action.

So far as the microscopic evidence goes, the condition is a true degeneration of the muscle cell, and besides the presence of fat, other changes are also found in the cell, involving the destruction of fibril bundles, and consequently leaving a marked impairment of contractile power.

If the cause is remediable, the degeneration may be recovered from.

The causes of fatty degeneration of the myocardium may be classified as follows:

1. A relatively insufficient supply of blood is afforded to the part affected: (1) From abnormal qualitative changes in the blood—posthemorrhagic anemia, pernicious anemia, etc. (2) From local conditions: (*a*) coronary obstruction; (*b*) special stress on particular parts of the heart.

2. A toxic condition is present: (1) In the general blood-stream, phosphorous, arsenical, and chloroform poisoning; alcoholism, uremia, etc. (2) In the lymph channels of the heart, pericarditis.

3. A combination of the above causes may be present.

In fatty infiltration it seems possible that the wandering fat may be deposited in the adjacent muscle cells.

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### The Pathogenesis of Bronchial Asthma.

Benedetto De Luca (*Riforma Medica; British Medical Journal,* June 28, 1902), after discussing the various theories on the above question, says that in order to produce asthmatic attacks the reaction power of certain bulbar centers, especially the vasomotor, must be excited, the attacks themselves depending essentially on the special excitability of certain bulbar centers to various stimuli. Usually asthma attacks neuropaths whose nerves centers are very excitable, but non-neuropaths may be attacked. In the neuropaths the asthmatic attack may be the clinical equivalent of some other neurosis. The essential pathogenetic fact in a fit of asthma is the narrowing of the bronchial caliber, caused partly by circulatory disturbance in the mucous membrane and partly by spasm in the muscles of the bronchial

walls. In a complete attack both conditions must be present. The diaphragmatic spasm is a secondary result of the dyspnea, and must be classed with the similar spasm of the other accessory muscles of respiration. The bronchial secretion does not play any marked part in the pathogenesis of asthma, and the same applies to the spirals of Curschmann and the Charcot-Leyden crystals.

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### The Leucocyte Count in the Summer Diarrheas of Children.

J. H. M. Knox and L. M. Warfield (*Johns Hopkins Hospital Bulletin,* July, 1902) say that a differential count of leucocytes in the blood of well children under two years of age when compared with the blood of adults shows that there is a relative increase in the small mononuclear elements and a decrease in the number of polymorphonuclear cells.

In the summer diarrheas of infants the number of leucocytes in the blood is usually increased, but the count of the white cells varies within such wide limits, even in the milder forms of the affection, that a high or low leucocytosis cannot be regarded as of diagnostic value.

In the simple dyspepsias of childhood a differential count of the leucocytes does not show any marked variation from that of a healthy infant, but as the cases become more severe in type there is apparently a progressive increase in the polymorphonuclear neutrophile cells and a decrease in those of the small mononuclear variety, thus presenting a picture more like that of adult blood.

As pointed out by Japha, the polymorphonuclear leucocytosis is an indication of an intoxication with decomposition products in the intestine or of the toxins of pathological bacteria—*i.e.,* it takes place both in the cases of acute intestinal poisoning and in the more severe forms of ileocolitis.

The cases of simple infantile atrophy present a nearly normal differential leucocyte count, but it would seem that an increase of the polymorphonuclear cells may indicate the setting in of an inflammatory intestinal complication.

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### The Histrionic Element of Mental Disease.

T. H. Kellogg (*New York Medical Journal,* July 19, 1902) says that the histrionic element in mental disease is the direct outcome at times of irresistible impulses and outbursts of emo-

tion. It results at other times from terrible delusions and hallucinations, which impel the sufferer to tragic acts. It proceeds in some cases from a central and organized false belief, which leads to sensational monomaniacal rôles. Again, the theatrical phases develop from morbid love, jealousy, or other overwhelming passion, or from actual changes of personality peculiar to insanity. The histrionic element taking the form of caricatures and mimicry is an aberrant manifestation of the law of imitation, which is so fundamental in all formative mental processes.

As a matter of fact, the histrionic performances are spontaneous and involuntary in some patients, attended by slight deliberation and self-control in others, and in a few cases directed by the most perverse wilful intent and insane cunning.

The recognition of this histrionic element as an integral part of mental disease throws light on some obscure phases of mental pathology, clears up the puzzling nature of cases seemingly mixed of sham and reality, and also has practical bearing in the prognosis and treatment of mental maladies.

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### The Importance of Individual Predisposition in the Development of Tuberculosis, With Some Remarks on the Relation of Metabolism to Human Susceptibility.

H. E. Lewis (*New York Medical Journal,* Aug. 9, 1902) says that individual predisposition is a far more important factor in the development of clinical tuberculosis than bacterial infection *per se.*

The constancy of a pronounced failure in metabolic equilibrium during and preceding clinical tuberculosis points to its importance as the constituting factor of individual predisposition.

The study of ferments in physiological processes shows that the enzymes are the working elements in the maintenance of normal metabolism, and justifies the conclusion that conditions of malnutrition are the result of their absence, decrease, or variation.

Study of the chemistry and biology of the bacillus tuberculosis and the conditions favoring and resulting from its growth in the animal body points to the fact that it possesses certain ferments in its organism which under favorable conditions perform the functions common to organic life.

Immunity to tuberculosis may be considered as the result and complement of those metabolic changes in living tissue whereby the enzymes, through greater potency than those of the bacillus

tuberculosis, are able to maintain a normal osmotic and functional activity in the ultimate cells.

Susceptibility to tuberculosis may be considered as a negative condition of organic tissue whereby the enzymes are less potent in the maintenance of normal osmotic and functional activity of component cells than are those of the tubercle bacillus in establishing bacteriogenesis.

## THERAPEUTICS.

### Adrenalin in Hay Fever.

There is increasing evidence that adrenalin fully meets the indications as a remedial agent in hay-fever. It controls the nasal discharge, allays congestion of the mucous membranes, and in that manner reduces the swelling of the turbinal tissues. As the nasal obstruction disappears, natural breathing is materially aided and the ungovernable desire to sneeze is mitigated. Adrenalin blanches the mucous membrane by vigorously contracting the capillaries, and thus reduces local turgesence. In the treatment of hay-fever the solution of adrenalin chloride should be used. This preparation is supplied in the strength of 1 part adrenalin chloride to 1000 parts normal saline solution, and is preserved by the addition of 0.5 per cent chloretone. The 1:1000 solution should be diluted by the addition of four parts normal salt solution, and sprayed into the nares with an atomizer. In the office, the 1:1000 solution may be applied in full strength. A small pledget of cotton is wrapped about the end of an applicator and moistened with a few drops of the solution (1:1000). The speculum is then introduced, the patient's head is tilted backward in a position most favorable for thorough illumination by the head mirror, and the visible portions of the lower and middle turbinate bodies, and the septum, are carefully and thoroughly brushed. The same application is made to the other nostril, when usually relief follows in a few moments. Should the benefit prove only partial, the 1:5000 solution may now be sprayed into both nares, and a few drops instilled into both eyes. The effect of this treatment may be expected to last for several hours.

It is also recommended by some that solution adrenalin chloride be administered internally in five to ten-drop doses, beginning ten days to two weeks prior to the expected attack. In explanation of the beneficial effect of the drug when used in this manner, the suggestion has been made that hay-fever is essentially a neurosis, characterized by a local vasomotor paralysis,

affecting the blood-supply of the eyes, nose, face, and pharynx, and occasionally of the laryngeal and bronchial mucous membranes. Adrenalin overcomes this condition, restores the normal balance in the local blood-pressure, and thus aids in bringing about a cure.—*Merck's Archives.*

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### Radical Treatment of Enlarged Prostate by Cauterization of Rectum.

Negretto (*Riforma Medica; British Medical Journal,* July 19, 1902) reports eleven cases successfully treated by the above method the whole gland is affected, and not a portion of it only. In addition to the usual enemata before operation, the author gives one or two glycerin enemata about an hour before operating. If a general anesthetic is inadmissible, he finds a chloral, morphine, and alcohol draught suffices to deaden the pain of the operation. The only instruments required are a speculum (Weis's trivalve, about 10 centimeters long), a special hook with a graduated stem (so as to estimate the distance from the prostate to the anus) and a Paquelin cautery. The rectum is plugged with gauze above the prostate, this latter fixed by the hook, and more or less freely cauterized with the flat surface of the cautery. The whole operation does not last more than two minutes. Afterward a large dose of bismuth and opium is given, and a catheter fixed in the bladder for a few days. A free purge is given at the end of a week, and usually in ten or twelve days the patient is able to urinate himself. The author has seen no bad results from this operation.

### Ichthyol in Chronic Bronchitis in Children.

Encouraged by the favorable reports on the use of ichthyol in tuberculosis, grip, etc., Dr. Walter B. Jennings (*St. Louis Medical and Surgical Journal,* April, 1902) began to use the drug in the common form of bronchitis in children, which so often follows measles, whooping-cough, and acute infectious diseases in general. He gives the histories of eight cases demonstrating the good effects of ichthyol in the above named conditions. It was administered in the following combination:

| | |
|---|---|
| Ichthyol | gr. xxxij. |
| Glycerini, | |
| Spt. aurantii, ää | ʒss. |
| Aquæ, ad | ʒij. |

The author gives the following conclusions: (1) The first dose often causes nausea and vomiting, but later the child grows inured to the taste of ichthyol. (2) Children under one year of age do not take ichthyol well. (3) To avoid the unpleasant effects of ichthyol it should be given after meals. (4) Increasing doses are not necessary for good results in children.

### Abortive Treatment of Boils.

A. Bidder (*British Medical Journal,* June 28, 1902) describes his method of dealing with furunculus, by which he includes those boils which consist of several foci of infection, running together and usually going under the name of carbuncle, but which are not produced by the bacillus anthracis. The method consists of injecting watery solutions of carbolic acid subcutaneously. He inserts his needle, in the case of smaller boils, through the skin at the extreme edge, and in the case of the larger ones (carbuncles) through the hard outer zone, and directs it obliquely toward the indurated tissue. A little of the solution is then injected, and the needle is withdrawn and inserted into another site, where more of the solution is injected, and so on until sufficient has been done; for large boils the whole syringe may be emptied. As a rule, he uses a two per cent solution, and he strongly advises a stout needle. Shortly after the injection—and he finds that one usually suffices—a fair amount of pain appears, but this passes off after a short time. The ultimate results are very satisfactory, and except in cases in which there is much suppuration, very little scarring occurs. He believes that this method is capable of arresting the infective process in any stage; in the early ones the necrosing of the tissues is prevented, and in the later stages further necrosis is avoided, and the tissue which has already died is quickly loosened and cast off. He describes the action of the injections as an almost magical one. He discusses the physiological action without arriving at any definite conclusions, and appends the histories of a few of his cases.

## RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

### Paraffin Injections.

In general surgery the use of paraffin injections has met with considerable success. In the surgery of the nose and face the results have not been uniform.

Choussand (*Revue Hebdom. de Laryngol.,* March 29, 1902) details his experience.

The paraffin which was first used for subcutaneous injection consisted of a mixture of soft and hard paraffin, with a melting-point of 40° C. (104° F.). The results obtained from its use have not always been satisfactory, and in some cases not free from danger. Thus, two cases of embolism have been reported; in many cases the paraffin has spread out into the surrounding tissues, whilst in others the swelling originally produced has, later on, gradually decreased in size. This last circumstance is probably due to a gradual absorption of the soft paraffin, only the hard paraffin remaining permanently *in situ.* To overcome these difficulties and dangers Eckstein uses a paraffin, probably not a mixture of two members of the methane series, but one of the higher members of the series. It has a melting-point of about 60° C. (140° F.). The syringe should be covered with india-rubber to prevent rapid cooling, the syringe and needle should be heated to a temperature rather above 140° F., and the injection must be done quickly. The injection is painful, but the results appear to be permanent, the paraffin being soon encapsuled. So far as the author is aware no bad effects have been produced.

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## OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILMAN, M.D.,
Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

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### The Pathology and Diagnosis of Tuberculous Otitis Media.

G. V. Grimmer (*Archives of Otology,* June, 1902), after an exhaustive study conducted at the Royal Infirmary, Edinburgh, with the view of determining a clearer clinical picture for distinguishing the tuberculous from the non-tuberculous otitis media, presents the following conclusions:

1. Advanced tuberculous changes may be present in the mucous membrane of the tympanum and of the tympanic membrane itself without producing visible evidence through the external auditory meatus.

2. The membrana propria of the drumhead offers marked resistance to tuberculous infiltration, and is only destroyed by a process of erosion. This resistance also accounts for the frequency of multiple perforations in tuberculous cases.

3. Latent tuberculous nasopharyngeal adenoids and all other

latent foci must be excluded before deciding that any case of middle-ear tuberculosis was a primary infection.

4. A high percentage, probably sixty-five to seventy, of cases of suppurative otitis media with neighboring bone lesion, in children under five years, are tuberculous; in older persons, not more than sixteen per cent of similar cases are tuberculous.

5. Intraperitoneal inoculation of guinea-pigs is a good and reliable method of proving the presence or absence of tuberculosis in granulations from the middle ear. Reliable proofs may also be obtained by examining microscopically such granulations or even an enlarged mastoid gland or nasopharyngeal adenoids when present.

6. In cases of suppurative otitis media, the absence of ear pain, early and extensive destruction of bone, early facial paralysis, multiple perforations, pale flabby granulations with caseous points in the meatus, about a mastoid sinus, and in the mastoid antrum, and an enlarged mastoid gland, point strongly to the disease being tuberculous.

7. The detection of a bare bone with a probe through the meatus, the character of the discharge, facial paralysis, and extensive destruction of bone appearing as a late symptom, are of doubtful value in arriving at a diagnosis, while the presence of cholesteatomatous masses is positively opposed to tubercles being present.

## DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Lecturer on Dermatology, Detroit College of Medicine.

### Dermatitis Verrucosa Caused Probably by the Bacillus Coli Communis.

In the *Journal of Cutaneous and Genito-Urinary Diseases* for August, 1902, Dr. H. B. Anthony, of Chicago, reports a case of verrucose inflammation of the hand in a tubercular subject, of three months duration, situated at base of thumb, size of a silver dollar, caused by dust finding entrance into a burn by a 50 per cent solution of muriatic acid, used in his occupation. Surrounding the entire lesion was an area of redness one centimeter wide, studded with dermal abscesses, from which a drop of pus escaped when opened; of a boggy feel, and somewhat edematous. Inside of this area was a zone of vegetating papillæ, such as occur in verrucose tuberculosis; the central zone was a fibrous scar. Culture made from the pus developed a bacillus as the colon bacillus.

# THE MEDICAL AGE

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## ORIGINAL CONTRIBUTIONS.

### PATHOLOGIC CONDITIONS CAUSING ABORTION AND PREMATURE LABOR, WITH REPORT OF CASES.

BY FRANCIS A. WEBB, M.D., CALVERT, ALA.

Looking back over an experience of nearly twenty years, I can recall no class of cases the treatment of which has caused me more anxiety and doubt, or in regard to which I have found it more difficult to get satisfactory rules from books or consultation, than the pathological conditions that cause abortion and premature labor.

It is not my purpose to discuss all of the pathological conditions that cause abortion or premature labor; time would not permit, nor would it be profitable to do so. My purpose is to present in a practical way a few cases that have come under my observation, with the hope of provoking a general discussion and exchange of opinions.

For convenience I will designate the cases A, B, and C.

*Case A.*—Multipara, aged twenty-seven, mother of three children. This patient consulted me during the month of February. Her last menstrual period occurred in December. She had menstruated regularly up to that time. In February the flow had returned, was profuse and watery, and accompanied with more pain than usual. She thought she was pregnant, but could not understand the return of the flow, nor its profuse, watery character. On inquiry I learned that she had never aborted, the family history was good, there was no specific trouble, but she had suffered a good deal from dysmenorrhea before marriage, though not since the birth of her first child. On further examination I felt assured that my patient was pregnant and threatened with abortion. She was ordered sedatives, cautioned to keep her bed for several days, and to avoid all exertion.

My instructions were carried out to the letter, but the flow returned in about two weeks, the pain was more severe, and the flow watery and more profuse. Consultation was then requested.

My consultant agreed with me both as to diagnosis (hydrorrhœa gravidarum with threatened abortion) and treatment. The main reason for consultation was to discuss whether further efforts should be made to prevent the premature expulsion of the fetus, or whether nature should be assisted in her efforts to throw it off. I could see that my patient, from confinement to bed and the repeated profuse discharges, accompanied with pain, anemia, and great anxiety, was growing weaker every day, and that the fetus, from lack of nutrition, could hardly be expected to survive, even if carried to full term. My consultant admitted all this, but believed it best to let nature have her way and make further efforts to prolong the pregnancy. The patient was cautioned to keep her bed, and the usual treatment ordered, to prevent if possible the threatened trouble. Notwithstanding the best efforts on the part of patient and physician, the pains and the profuse discharge would recur every week or ten days, and just as gestation reached the seventh month premature labor came on and resulted in the delivery of a poorly nourished male child, which survived only a few minutes.

My patient, by a confinement to bed of over three months, loss of appetite, profuse flow, anxiety, etc., had so run down that it was by a narrow escape she passed through the ordeal of labor. It required months of tonic treatment to restore her to health.

It is my honest conviction that it would have been good practice and justifiable to have terminated this threatened trouble earlier, and thus to have enabled my patient to avoid many doses of medicine, and, above all, to escape the danger that threatened her life.

*Case B.*—Multipara, mother of three boys; youngest child six years old. I was called June 3 to see this case. She gave the following history: Had menstruated last in January; her former pregnancies had been normal; had never aborted. For two days prior to my visit she had suffered from pains and hemorrhage. She believed she was five months pregnant, and that the trouble had been brought on by overexertion.

On examination I found the os slightly dilated. There was yet considerable pain and hemorrhage. Diagnosis: Accidental hemorrhage from placental detachment, caused by violent exercise, and, as a consequence, threatened premature expulsion of the fetus. The patient was confined strictly to bed and put on treatment, to arrest if possible the threatened trouble. I was sent for again on June 6. She had not obeyed instructions in regard to the recumbent position, but had gotten up that day and had a return of all the symptoms. She was again ordered

to keep her bed, and the treatment was continued. The patient remained in bed after this, but had hemorrhage and pain again on the 11th. I was sent for and saw the case with Dr. J. T. Searcy, as a consulting physician. He advised that we still temporize and continue the treatment, at the same time expressing the opinion that the case would eventually terminate in a premature expulsion of the child, but thought best not to interfere. I was called again in great haste on the 29th, this time to find the patient in active labor, the os well dilated, and a very foul discharge flowing from the uterus and vagina; the patient had a rapid pulse and temperature of 103°. The fetus was expelled, dead and almost decomposed; the placenta also was in a state of decomposition. The uterus and vagina were washed out with an antiseptic solution and the patient put on ergot, strychnine, and quinine. For several days her condition was critical from septic trouble, but she eventually recovered.

The pathological condition causing this premature labor was separation and detachment of the placenta, followed by pain and hemorrhage, and as a consequence malnutrition of the child, and finally its death and decomposition.

My conviction is that had the uterus been emptied on my second visit, June 6, my patient would have had a much better chance for life; the danger from the decomposing child and placenta and consequent septic trouble would have been less, or altogether averted; and her physical condition would have been much better able to withstand the ordeal. With a patient five miles away, with an extensive country practice to look after, the anxiety of the physician can be imagined; and also of the patient, under such circumstances.

*Case C.*—Multipara, mother of two children, youngest twenty-three months old; had never aborted. I was consulted May 4, and she gave the following history: Prior to December 20 she had menstruated regularly. Her menses did not appear on January 20. She had had a profuse leucorrhea since December. On March 17 she had a fall, followed immediately by pain in left side and uterine region, also by a profuse watery discharge from uterus and vagina. This watery discharge continued for several days. On April 5 she menstruated (as she thought) profusely, the flow continuing for five days, accompained by severe pain. Then, for the week following, there was a dark, muddy, offensive discharge. On April 26 she again had a flow for three days. This flow had the appearance of blood, and some clots were expelled. On vaginal examination I found the uterus enlarged and flexed toward the right side. The os

was not then dilated. Owing to the thick abdominal walls, it was not easy to ascertain the exact size of the uterus. From such data, and well knowing that several pathological conditions might furnish a similar history and produce many of the symptoms detailed, diagnosis was no easy matter. Several possibilities existed:

First, that the woman was impregnated in the month of December and had aborted on March 17 (date of the fall and profuse watery discharge), the fetal envelopes having been retained; or she was still pregnant, the amniotic fluid having escaped and the uterus having contracted down on the retained fetus and envelopes.

Second, the condition might be due to subinvolution, with menstrual irregularity.

Third, chronic corporeal endometritis, or chronic corporeal metritis, might exist. The eroded os uteri and profuse leucorrhea were symptoms of this condition.

Fourth, the enlarged uterus and irregular menstruation might be due to a submucous fibroid.

Fifth, we might have a case of ectopic gestation. In this condition we have signs of pregnancy, cessation of menstruation, or the flow is replaced by peculiar hemorrhages; nausea, vomiting, and capricious appetite are noted. Some of the mammary signs, such as increase in size of nipple and glandular follicles, pigmentation, edema, and elevation of the primary areola and enlarged veins, are often present. Pelvic discomfort is marked; indeed, compared with ordinary pregnancy these symptoms are often more pronounced. Hemorrhages from the uterus are apt to occur in gushes of larger or smaller amount, and are especially liable to appear at the time of menstruation, and with marked pain. The hemorrhages and decidual clots often suggest abortion or premature labor.

A decidual clot is often thrown off, and this cast has no fetal villosities. It may be discharged entire or piecemeal, and shreds must be looked for.

The patient suffers from paroxysms of pain, which are abrupt and violent, supervening in apparent health, cramp-like in character, and usually referred to the fruit sac, while the more acute symptoms are attended with collapse and signs of internal hemorrhage. On bimanual examination the uterus is found, first, enlarged; second, is displaced according to the size and situation of fruit sac; third, the cervix is open; fourth, the uterine cavity empty. The tumor, which is detected beside the uterus or behind it, is a cyst, (1) tense, (2) tender, (3) pulsating, (4)

rapidly growing. This tumor is exceedingly sensitive. There is extraordinary pulsation, which can be easily felt.

After a careful study of the history of the case, and all that could be ascertained by vaginal examination, the diagnosis and line of treatment were not clear; consequently I requested consultation. Dr. G. Owen kindly consented to examine the case with me. Next day (May 6), after a careful examination by Dr. Owen, he frankly confessed that the case was obscure and the diagnosis uncertain. He advised that the patient keep her room for several days, without confining herself to bed, and that we await developments. On the night of May 9 I was called over the telephone to come to my patient in great haste. I called as soon as possible, to find that Dr. E. L. Marechal had been summoned, as the case was so urgent, and the doctor had responded. I found him in charge on my arrival. My patient's condition was critical in the extreme, in a state of collapse and shock from uterine hemorrhage. Dr. G. Owen was also sent for. The vagina was tamponed, and the patient treated for the condition of collapse and shock. I remained with the patient. Dr. Owen saw the case with me the next morning. We removed the tampon and washed out the vagina with an antiseptic solution. Dr. Owen then made a vaginal examination. Your reporter attempted to follow him, but the patient became faint, and he had to desist.

After the examination by Dr. Owen, he was strong in the opinion that it was a case of ectopic gestation, although not certain. Although some of the symptoms and the history of the case would lead to suspicion of ectopic gestation, yet in my opinion the trouble was intra-uterine. Dr. William M. Mastin was called in consultation with us, and after examination expressed himself as not satisfied, as he could not in the patient's extremely low condition make the careful examination he wished. He regarded the case as obscure, with some symptoms pointing to ectopic gestation, but the preponderance of evidence was, in his opinion, that the trouble was intra-uterine. Dr. Mastin advised that as soon as the patient's condition would permit she be removed to the Providence Infirmary, put under an anesthetic, the uterus investigated, the diagnosis cleared up, and if the trouble was found to be extra-uterine, to operate.

May 13 the patient was removed to the Infirmary. May 14 it was agreed that Drs. Owen, Mastin, Webb, Marechal, Gaines, and Thomas meet at the Infirmary to clear up the diagnosis, and operate if necessary. The patient had been well prepared for the examination and operation, and everything was in readi-

ness, when Dr. Mastin telephoned that it would be impossible for him to be present. After consultation it was agreed that we had best not delay the examination. Ether was administered by Dr. Marechal. Dr. Owen requested Dr. Thomas to make a vaginal examination. Dr. Thomas said that the uterus was larger than normal, but he was not sure of the cause. The patient was then brought to the edge of the table, the uterus dilated with Goodell's steel dilator, and with some difficulty I succeeded in passing my finger through the internal os, and found a fetus *in utero*. It had been agreed if the diagnosis proved that the cause was intra-uterine to pack the neck of the uterus with iodoform gauze, tampon the vagina, and let nature expel the fetus. This was done and the patient put back to bed. She came out well from under the ether, and rested well all the evening and during the night. Later on the pains came on, and the patient was delivered of a dead fetus of five or six months. She eventually made a good recovery.

It is my honest conviction that when cases present the history and the symptoms of the three just outlined, it is the plain duty of the physician not to procrastinate, but, using every antiseptic precaution, to make a thorough and decisive examination of the uterus, and if necessary empty it. I believe in conservatism and the old adage "meddlesome midwifery is bad," yet when the patient's life is in danger from threatened hemorrhage that may occur at any moment, or when her health is impaired from long confinement, and there is great risk of septic trouble, it is our duty to act, and not increase the jeopardy by an attitude of so-called masterly inactivity.

Were it necessary the reports of similar cases could be multiplied. The three just selected from my note-book are ample, however, to demonstrate the truth of my first proposition, namely, that great difficulties surround the class of cases of which I speak, to overcome which it is often not easy to find advice, either from books or consulting doctors. I would not be understood to rashly advocate the emptying of the uterus from any and every pathological cause, without due deliberation and consultation; but I do condemn the procrastination so often practiced both by the attending physician and consultant. Indeed, it is my opinion that every pregnant woman whose case presents a pathological condition should be regarded with the same care and treated on the same principles that govern modern scientific surgery. My contention is that after due deliberation and consultation we should meet these pathological conditions causing abortion and premature labor with timely and scientific help.

## ADRENALIN IN UROLOGICAL PRACTICE.

BY PROF. A. VON FRISCH.

Advantageous use can be made of the blanching or hemostatic action of adrenalin when performing operations on the urethra and bladder.

I shall briefly set forth the manner in which I used the preparation in several cases in which it rendered me good service, and I hope to stimulate further experiments in the same direction.

It is sometimes desirable to make a cystoscopic examination in cases of vesical hematuria in which the preliminary irrigations always cause a renewal of the hemorrhage and in which a clear idea of the conditions is sometimes obtainable for a brief moment only with the aid of the irrigation cystoscope. In such cases I have filled the bladder with 100 to 150 cubic centimeters of a solution of adrenalin, 1:10,000, leaving the liquid three to four minutes in the bladder, and only then beginning the irrigations. By taking this precaution I avoided all hemorrhage, or else it was so slight that the clearing up of the contents of the bladder was readily effected and the cystoscopic examination could be executed with perfect success.

In operating on tumors of the bladder and in performing *sectio alta* (suprapubic cystotomy), I make, after opening the bladder, several applications of the adrenalin solution, 1:1000, to the tumors and their immediate neighborhood, using a cotton pledget for the purpose. This sufficed perfectly to render possible the extirpation of the tumor in the blanched tissue almost without any loss of blood, whatever. In this way the thorough removal of the bases of the tumors is assured, and there is no danger of leaving behind, when dealing with multiple papillomata, a little of the oft minute new formations, since the field of operation remains almost completely dry and free from blood. Inasmuch as the anemia of the mucous membrane persists for a comparatively short time, and the contraction of the vessels seems to be followed by their not inconsiderable dilatation, it is to be recommended, if one does not wish to stitch up the incision in the mucous membrane, that the wound be carefully packed and the bladder also tamponed. In one case in which I failed to carry out these precautions carefully I had to deal with a very unpleasant secondary hemorrhage. For the endoscopic removal of papillomata of the bladder, it is sufficient to fill the bladder with adrenalin solution, 1:10,000, as in the performance of cystoscopy.

In very narrow strictures which are difficult to enter, the application of a few drops of adrenalin, 1:1000, at the entrance to the stricture suffices so to reduce the swelling of the mucosa as to materially facilitate the introduction of the sound.

In the difficult catheterism of hypertrophied prostates, a preliminary instillation of one to two cubic centimeters adrenalin, 1:1000, into the prostatic urethra is of great advantage. The introduction of the catheter is more readily performed and usually without bleeding, even when the prostate gland is congested. In the same fashion we have heretofore made the most of instillations of cocaine in strictures and hypertrophy of the prostate. This drug also produces a transient anemia, or blanching, and reduces the swelling of the mucosa; but adrenalin works far more promptly.

Finally, I used the drug in three cases of acute and complete suppression of urine due to hypertrophied prostate.

Each time I was confronted with an initial complete prostatic retention in the first stage. The suppression of urine had been in all the cases so complete for days or weeks that the patient had been unable to void a single drop spontaneously. After instilling two cubic centimeters of adrenalin, 1:1000, into the prostatic urethra, I waited three or four minutes and then requested the patient to try to empty the bladder. The result was of course very imperfect, but the patients were able to void a small quantity of urine, at least drop by drop, immediately after the application of the adrenalin. In such cases there is no depreciating the moral effect of a result, be it ever so slight, which follows immediately on the surgeon's intervention, for the patient is usually much depressed over his condition, and we thus give him hope that spontaneous urination is among the possibilities. But in my cases I observed that the first painfully voided drops of urine were followed by a fairly quick return of the normal function, very much after the manner in which the same result may be observed when Bottini's operation is successfully performed. The adrenalin instillations were continued for several days. The quantity of the spontaneously voided urine (which in one case amounted to 500 cubic centimeters on the first day) increased steadily and satisfactorily—indeed, faster than we have been wont to observe in such cases when the acute edema of the prostate is reduced.

These further results from the injection of adrenalin are certainly not to be explained by the quickly subsiding hemostasis or blanching of the mucosa; but very probably they stand in direct relation to the immediate effect of the intervention. I

have always been under the impression, and I have on various occasions expressed the opinion, that in many cases of retained urine following prostatic hypertrophy, in addition to the mechanical impediment caused by the enlargement of the gland, a certain part is played by the excessive muscular tension of the internal sphincter. Inasmuch as in the act of urination the relaxing of the sphincter is always primary, and this (as is not seldom the case in neuroses without change in the volume of the prostate) causes the patient the greatest trouble, it is at all events conceivable that the psychic impression produced by the first spontaneous urination, be it ever so slight, helps the patient afterwards by facilitating the relaxation of the sphincter which induces micturition.

The preparation used by me is the solution introduced by the firm of Parke, Davis & Co. (adrenalin chloride 0.1, sodium chloride 0.7, chloretone 0.5, distilled water 100.0).

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## FIBROID TUMORS AND PREGNANCY.*

BY LOUIS FRANK, M.D.,

Professor of Abdominal Surgery and Gynecology in the Kentucky University, Medical Department; Consultant and Visiting Surgeon to the Louisville City Hospital, etc., etc., Louisville, Ky.

According to text-books pregnancy complicated by uterine fibroids, or pregnancy in fibromyomatous uteri, should be regarded as exceedingly dangerous, to both mother and child. But as the opinions therein expressed are largely based upon the outcome of cases observed during the period of preantiseptic obstetrics and surgery, and as only the worst cases have been reported, or those in which in all probability operative measures were carried out, and as there remained unreported and unpublished many cases in which no trouble was met with during or subsequent to the accouchement, or in which the condition was overlooked (as is true in this as well as in other diseases), the conclusions are not difficult to understand.

That the condition is entirely free from dangers no one would say, but in my opinion the dangers have been greatly exaggerated. Fortunately those uteri which, beset with fibromata, give rise to the gravest dangers during pregnancy and delivery, are least apt to become the seat of the fructified ovum. And in a consideration of the dangers which may arise during pregnancy or labor, the location of the tumors, not only in their rela-

*Author's abstract.

tion to the structure of the uterus (its mucosa, muscularis, and peritoneum), but in their relation to the fundus, the body, and the cervix, must be borne in mind.

Tumors occupying the lower uterine segment, or the submucous structures, are the most dangerous from the standpoint of both the child and the mother—to the child from premature labor, placenta previa, abnormal presentation, Cæsarian section, or other operative procedure which may become necessary for its delivery; to the mother from accidents, such as abortion, hemorrhage, sepsis due to sloughing of the tumor from pressure, rupture of the uterus, or operative intervention for delivery either *per vias naturales* or through the abdomen.

Among earlier writers the stated mortality in these cases was enormous, probably due to lack of knowledge of asepsis and antisepsis, and lack of evolution of surgical principles observed to-day. Before the period of present surgical success the maternal mortality was fifty per cent, whereas mortality for the child was seventy-five per cent. Occasional reports of cases are found in the older literature, and then, as now, the great trouble primarily seemed to have been in making the diagnosis. Yet many opinions were then expressed as to treatment which hold absolutely good to-day, among which we may mention those of Krukenberg, Hofmeier, Lefour, Budin, and others.

The greatest real danger is not during the course of the pregnancy. From careful perusal of many reported cases, and those which I have personally observed, I am forced to conclude that the dangers from abortion, placenta previa, etc., are more fanciful than real. Statistics, however, until recent times, have not been brilliant.

Nauss in 225 cases collected found the maternal mortality 54 per cent, while in 117 cases the mortality to the child was 57 per cent.

Susserot's table of 147 cases shows that 78 of the mothers died, and in 61 cases where manual or instrumental aid was used there were 33 deaths, 45 deaths occurring in 86 cases which were not interfered with.

In Stavely's collection, which is probably the most recent, 597 cases are tabulated with no interference, with a mortality of 220, or 37 per cent. In 307 cases which had aborted there was a mortality of only 12 per cent. The greatest danger, therefore, comes during delivery and the lying-in period. While hemorrhages may occur during gestation (as Lefour has shown), they do not necessarily interfere with the course or duration of pregnancy.

The dangers during labor to both mother and child are due to malposition and manipulation or instrumentation necessary to accomplish delivery; at the lying-in period the dangers to the mother come from gangrene or sloughing of the tumor as a result of pressure during birth or preceding delivery. During the lying-in period the occurrence of gangrene, or breaking down or suppuration of the tumor, is not uncommon, but degenerations are exceedingly rare during pregnancy owing to the great afflux of blood to the uterus.

Gueniot, Tarnier, Taloczinow, Susserot, Neuss, and Lefour all agree that malposition is a frequent complication met with during pregnancy in fibroid uteri. In 300 cases which Lefour collected, vertex presentation occurred in only 50.58 per cent, whereas the presentation was breech in 32.35, and shoulder in 16.66.

I have either been fortunate or unfortunate in that I have observed several of these cases in my short experience. Some of them bear directly upon the conditions mentioned, and serve to show not only the dangers of attempting interference in some of these cases, but also the dangers following delivery, the good results which may be obtained by non-interference, and the difficulties in diagnosis.

*Case 1.*—In every case of fibroid tumor of the uterus, the possibility of pregnancy should not be overlooked; this was done in my first case, nothwithstanding the fact that the woman believed herself pregnant, and I had the possibility of pregnancy in view when examination was made. The patient, a woman twenty-eight years of age, had been comparatively healthy all her life; she had been married five years; never pregnant. About five months before I saw her she thought she had conceived. However, menstruation recurred after six weeks, and had occured at regular intervals of four weeks thereafter. Just previous to the time I saw her (and it was on this account I was called), she began to complain of pelvic pain. The attending physician thought she had a ruptured ectopic pregnancy on account of the severity of the pain and the bleeding which was going on. Examination revealed the uterus beset with numerous subperitoneal fibromata. She was sent to the infirmary and a hysterectomy done. Not until the abdomen was opened and extirpation begun were we positively aware that this woman's uterus contained a fetus. The operation was continued, as it was too late when the discovery was made to recede.

I believe to-day I would not make such a mistake, and I believe further from the cases I have subsequently seen that this

patient would probably have gone to term and been delivered of a living child. The fibroid tumors were all subperitoneal, occupying the fundus of the uterus, none of them lying in the pelvis to obstruct descent of the child during delivery.

This case serves to illustrate the difficulties that may be encountered in making the diagnosis. The tumors increased rapidly in size after the supervention of pregnancy, which is the history of almost all these cases.

*Case 2.*—I have knowledge of a case in which a fibroid tumor situated in the anterior wall of the uterus was not discovered until the woman became pregnant; it has increased in size and has been carried upward by ascent of the enlarging uterus, though it is giving rise to no trouble. This woman has been advised not to have an operation done, at least for the present, and it is believed she will be successfully delivered at term of a living child.

We find that after delivery these tumors often disappear and cannot even be detected by the most careful examination. Tumors situated as is this one do not give rise to the dangers incidental to pregnancy, such as necrosis, with sloughing or suppuration and subsequent sepsis, as was true in one of my cases about six years ago.

*Case 3.*—The third case was a negress who had been delivered by one of my students. Six or eight days after delivery the discharge became offensive, and necrotic masses were passed *per vaginam*. Upon examination I found a large tumor occupying the posterior wall of the uterus which presented to the examining finger at the internal os. This tumor was undergoing necrosis and sloughing. Under chloroform the mass was shelled out of the uterine wall, and the cavity remaining packed with gauze. She died, however, within forty-eight hours, from septic infection which existed previous to the time I saw her.

I believe this case would have had a better chance of ultimate recovery had a hysterectomy been done instead of attempting to remove the tumor.

*Case 4.*—The next case was also an unfortunate one, and serves to again illustrate the difficulties which may arise as to diagnosis. The patient was a young woman whom I saw in consultation with Dr. Buckle of this city. She had been married about three months and supposed herself six weeks pregnant. One evening she began complaining bitterly of pain, and examination by the physician revealed a large mass low down in the right side; he thought the case one of tubal pregnancy.

Having in view the previous case I had seen, and some of

the symptoms of extra-uterine pregnancy being absent, I concluded, after careful examination and study of the case, that it was one of pregnancy in a fibroid uterus. Later another gentleman was called and operated upon the patient, doing a myomectomy, removing the tumor smoothly from the uterus, closing the pedicle with catgut, the tumor being the size of a small orange. Surgical convalescence proceeded nicely, but later abortion occurred, and the woman subsequently lost her life from puerperal infection.

I believe this case, like Case 1, would have gone on to term and been delivered without trouble. Myomectomy should not be the operation of election in these cases even in the presence of a single tumor. The dangers to the mother are almost as great as if the operation were performed later, and the dangers of abortion are certainly much increased, thus greatly lessening the chances for the child, and the child undoubtedly has a right to consideration.

*Case 5.*—This case, seen about two years ago, was not a true fibroid of the uterus, but was a small polyp occupying the cervix, which had caused so much hemorrhage that the woman was in danger of bleeding to death. She was thought to have had an incomplete abortion. Examining her in consultation I found a small mucous polyp lying in the cervix which had given rise to the hemorrhage. This was snipped off with scissors, the parts touched with carbolic acid, loosely packed with gauze, and the bleeding ceased. No further hemorrhage occurred, and she was delivered several months later of a normal child.

Such cases as this, if not carefully looked into, might be curetted with the idea that we had to deal with an incomplete abortion. Conditions such as this, where complicating the pregnancy there are small fibroid or mucous polyps, which lie in the cervix and give rise to copious hemorrhage, may be easily remedied by removal. I would oppose, however, either a prolonged or extensive operation such as would be necessary in doing an enucleation for a large tumor, as again in these patients the danger of inducing abortion is too great to be overlooked. They might be better treated if allowed to go to term and the tumor removed preceding delivery if sufficient in size to cause obstruction. Or the course might be such as was true in a case upon which I subsequently operated, removing a fibroid mass.

*Case 6.*—This case was in labor when seen by a practitioner out of the city. Examination revealed a tumor larger than a fetal head occupying the vagina; it seemed soft, and behind this could be felt the vertex of the child. The membranes had rup-

tured, and pains were active and constant. While the doctor was debating as to what he should do, the advancing head drove the tumor, which had a pedicle, out of the vagina, the cervix being carried down to the ostium vaginæ by the expelled tumor. The child was then delivered without any great trouble.

Convalescence progressed nicely, and later a ligature was placed around the pedicle and the tumor mass cut away, the remaining portion of the pedicle being extirpated from its bed in the anterior lip of the cervix. The patient made an uninterrupted recovery, and she and the child are both living and well to-day.

Such a fortunate course of events does not always follow obstructing tumors, and I think this woman as well as the doctor in the case are to be congratulated upon the happy outcome.

*Case 7.*—This woman was first seen several years ago, with a child presenting transversely in the pelvis, and was delivered under chloroform without any great difficulty, the membranes having been ruptured twelve hours previously. Nothing especial was thought of the malposition, nor was any examination made after delivery.

About eighteen months later (Oct. 4, 1900) I saw her for the second time, the history of the case as taken from my notes being as follows:

Labor began at eight o'clock, and I saw her at half-past three in the afternoon, when the os was dilated to the size of a silver half-dollar. The membranes were found occupying the lower uterine segment. It was impossible at this time to make out distinctly whether we had to deal with a transverse presentation or a foot. In the interval between pains both hands could be made out, and the toes of one foot could be felt through the membranes.

The patient stated that she thought she was pregnant with twins on account of the location of the movements she felt, also because of her peculiar shape that a large mass occupied each side. Examination of the abdomen revealed the latter to be true. There was a tumor, the larger of the two, extending upward and outward to the edge of the ribs on the right side. In this tumor we could distinctly feel the outlines of the child, its buttocks occupying the lower part of the tumor. Upon the left side a tumor extended almost as high, though more rounded in outline, smooth, and not oblong in form as was the one on the right. Between the two masses was a distinct depression.

The membranes were ruptured, a foot grasped and brought down, and the child delivered without any difficulty. Hem-

orrhage was not excessive, and the placenta was expelled by Credé's method in fifteen minutes. It was seen in doing this that pressure over the left mass had no effect whatever upon the placenta, but efforts directed to the mass on the right side caused the placenta to come away without trouble. After its expulsion examination showed the presence of what proved to be a tumor adherent to the uterus on the left side, rising at this time to the umbilicus, but being more to the left than to the right of the median line. This tumor was connected with the uterus and was larger than the empty organ. We believed it to be a fibroid tumor.

October 5. Temperature and pulse normal; pains very severe and continuous during entire night; flow not excessive; tumor on left side still distinctly made out.

October 6. Temperature, pulse, and flow normal; pains still continue; tumor still present, but possibly slightly smaller.

October 7. Tumor believed to be less than the preceding day, and certainly less in size than immediately after delivery.

On the 25th of March of this year (1902) I saw this patient for the third time in labor, again with the child lying transversely, the abdomen looking upward and the right arm presenting. The membranes had been ruptured about an hour before. Examining the abdomen I could again feel the enlarged fibroid tumor, as I took it to be, upon the left side in the same locality as before noted. Under chloroform version was again performed and a living child delivered. The tumor was now larger than the empty uterus.

Convalescence has been good, but there is still some bleeding going on; after-pains severe, lasting one week or more. The lochial discharge has been brighter than usual and has been more profuse. Examination made yesterday (April 17, 1902) reveals the tumor now about the size of a small orange, being not quite as large as the involuting uterus. She has never had any elevation of temperature, and there has not been an untoward symptom, the only abnormality noted being prolonged after-pains and continuation of the lochia.

This case exemplifies what a number of observers have stated, as for instance Bantock, who expressed the opinion a number of years ago, in a discussion of this subject before the British Gynecological Society, that the statements in text-books as to the dangers during the course of pregnancy with this complication would bear revision. In a large number of cases which he had seen with single and multiple tumors, none of the accidents described had occurred. He does not think that these women are more liable to hemorrhage, placenta previa, nor to abortion,

and that the latter is rare excepting where the uterine cavity itself is surrounded by a great number of tumors. He advises against the induction of abortion or interference with labor in any way.

Hofmeier avers that the presence of myomatous tumors during pregnancy, labor, and the puerperium is rarely the cause of serious consequences, and that the dangers may be essentially diminished through patience, proper judgment, and antiseptic management.

Weeks says that it is far better in the vast majority of cases to allow the pregnancy to go to term, and if delivery by the normal channel be impossible, to resort to section, and do so before the patient's strength has been exhausted by the continued labor. He recommends as the best operation the Sanger, with removal of the ovaries and if possible the tubes.

W. J. Mayo in reporting a case says in his concluding remarks: "Not much can be deduced from a single case, and while not presuming to say that every pregnant myofibromatous uterus should be allowed to go to term, the number of cases in which both the mother and child have been saved either by unlooked-for natural delivery or by operative procedures would certainly demand strong reasons for the sacrifice of the child, either by early hysterectomy or the production of premature labor; and unless the continued life of the child means certain death to both mother and child, I believe the child should have a nearly equal chance."

I am fully in accord with the opinion expressed by Mayo, and believe far the best chances will be given both mother and child by allowing pregnancy to go on to term; and if delivery, as Weeks says, by the natural channel is impossible, to deliver by Cæsarian section, either after the method of Porro, or, in selected cases, by the Sanger method.

This opinion would seem to be borne out by a study of the statistics, not only of those cases in which abortion had occurred (which it is presumed was not induced), but also of those in which there was interference.

To reach correct and proper conclusions, we should compare these results with those of non-interference during pregnancy and at term and the results generally of Cæsarian section. Of course, in abortion the mortality to the child is 100 per cent. In cases allowed to go to term, and with our present obstetrical and surgical technique, the mortality to the child should not be greater than five per cent, and the maternal mortality not over ten per cent.

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# THE MEDICAL AGE.

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## EDITORIAL ARTICLES.

### MEDICAL MEN AS INVESTORS.

There is perhaps no class of men who are considered quite as gullible as medical men. No matter how improbable a scheme a clever promoter may have, he always figures on interesting in it a number of physicians. Doctors are constantly being approached to make investments in all sorts and manners of schemes. These various enterprises may be gold mines, manufactories, coöperative pharmacal companies, in fact anything in the business world. One of the favorite schemes laid before the physician is the coöperative investment in some form of wholesale drug business. He is told in glowing terms how such a business is certain to succeed owing to the fact that only physicians will be stockholders, and they naturally will aid it by prescribing only such articles as are manufactured by the concern. To many medical men this form of investment appeals strongly. They little realize that they are being exploited by some clever individual or company. It is not to be thought that we are arguing against physicians purchasing stock in ethical and recognized drug firms, for there are many such in this country whose stock would be a valuable asset to any one, but to the many companies that are constantly springing up who manufacture two or perhaps three proprietary articles which are foisted upon the medical profession under fancy names. Medical journals teem with the advertisements of these companies, and it is only to be marveled at that they live as long as they do. Prescribing fixed formulæ is to be deprecated, as the best results are only obtainable by prescribing independently for each patient, and the fewer drugs in a single prescription the better.

Doubtless it is due to lack of business acumen among physicians that they allow themselves to be drawn into enterprises

of which they have no knowledge whatever. They little realize that when they become stockholders in a manufacturing concern of this character they may render themselves liable to an amount far in excess of their original investment. To the fortunate few who practice medicine and are able to accumulate a little over and above what they require to live on, it may be said that productive real estate or first mortgages thereon offer the best investment for one who is not conversant with modern business methods. These, however, have their drawbacks, owing to the almost constant care which has to be bestowed upon them to make them profitable. Tenants disappear leaving unpaid balances behind them, and the defaulting of the payment of interest on mortgages involves time and trouble to adjust. Bonds or stocks in good reliable local enterprises offer perhaps the best and safest investments for the medical man. To be sure the rate of interest on such investments is low, but the minimum of risk to holders is a thing to be given consideration. To the great mass of practitioners who are not greatly burdened in finding ways and means to invest their surplus, it may be said that the best investments they can make are the purchasing of the latest instruments and books, subscription to as many first-class medical journals as they may have time to read with profit, and to take, every few years, a trip to some medical center and there remain as long as possible, thus combining pleasure with profit.

## EDITORIAL NOTES.

### Is Syphilis Curable?

Probably the first question asked of a physician after he has made a diagnosis of syphilis, is whether or not the individual so affected will ever be cured. The layman has always looked upon syphilis as a malady that can never be eradicated, and one which will always impair his health and usefulness. The same opinion is also shared by a minority of the profession; nevertheless it can be stated that the foremost syphilographers of the day are now almost unanimously of the opinion that syphilis is curable. The facts are that while we can never affirm with scientific accuracy that a given case is cured, the patient who has subjected himself to a thorough course of treatment for a period of not less than three years may be so regarded. The rarity of tertiary manifestations is one of the best of proofs, owing to their appearance, according to competent observers, in less than ten per cent of the

cases. It has been argued by many that the insusceptibility of a patient who has had syphilis to a second inoculation is proof of it being an incurable affection. The same argument might be made in regard to smallpox or variola, but who is there who will argue that these diseases are incurable? From a great mass of clinical evidence, in regard to the curability of the lues, it may be stated almost positively that after the symptoms have disappeared for at least one year, with no reappearances whatever during that time, the disease has run its course and the patient is well, at least in so far as it will have any effect upon his future well-being.

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### The Rewards of Medicine.

At no time in the history of medicine have medical men reaped such rewards as at present. All over the civilized world we find examples of the high esteem in which the art is at present held. In this country we find an army surgeon, who a few years ago was practically unknown, holding a commission as a brigadier-general, given him as a reward for his work in Cuba during the period of its reconstruction. Half a century ago the position of the medical man was by no means an enviable one; he had practically no social standing whatever. This no doubt was due to the fact that he was on the same plane as the barber, from whom the surgeon of latter days has evolved. In England among the barons and knights will be found at least twenty medical men, made so by their sovereign as a recognition of their attainments in the healing art. The greatest discovery of modern times, the *x*-ray, brought for its discoverer, Professor Roentgen, the honor of a baronetcy. Koch, whose discovery of the bacillus of tuberculosis marked a new era in progress of scientific medicine, has had nobility conferred upon him, as has also Prof. Von Leyden.

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### Opportunities for Young Physicians.

At the present time there exist forty-nine vacancies in the Medical Department of the U. S. Army. This lack of army surgeons is embarrassing to the department in view of the spread of cholera in the Philippines. To young medical men about to embark upon the uncertain sea of practice this is an opportunity for obtaining a competency, providing they have the necessary qualifications.

# ITEMS AND NOTES.

CHOLERA has spread from Chinese ports to Japan.

AN epidemic of typhus fever is prevailing on the west coast of Ireland.

AN epidemic of trachoma is reported in Syracuse, N. Y., especially among the children.

THE unveiling of Pasteur's statue took place on August 3 at his birthplace, Dole, Jura.

THE fifteenth annual French Congress of Surgery will be held at Paris in October, 1902.

ELLSWORTH, Wis., according to the reports, was the healthiest place in the United States during the year 1901.

YELLOW FEVER is reported on the Maine coast, having been brought there by a British sailing vessel from Rio de Janeiro.

DR. CARL GERHARDT, an authority on pediatrics and also on pulmonary diseases, died on his estate of Damberg, Baden, on July 21.

DR. HENRY HELFRACH, of Allentown, Pa., on July 22nd celebrated the 99th anniversary of his birth. He is the oldest physician in that State.

DR. WALLIS, professor of pathological anatomy at the University of Stockholm, considers alcoholism and tuberculosis the two enemies of mankind.

CARL GUSSENBAUR, professor of surgery, has been appointed rector of the University of Vienna, and Earnest Ludwig, professor of chemistry, dean.

SIR FREDERICK TREVES, hitherto one of King Edward's honorary sergeant-surgeons, has been appointed a sergeant-surgeon in ordinary to his majesty.

DURING the month of June 316 emigrants were barred from entering the country owing to the fact that they were either diseased or physically deformed.

THE Canadian Medical Association will meet in Montreal, September 16 to 18, 1902. The Dental Association will hold an organization meeting at the same place and time.

FOLLOWING the approaching medical congress at Madrid, there will be a conference of the members of the medical press, who are planning a national congress of deontology.

OF the 402 candidates who recently took the examination before the Philadelphia State Board of Medical Examiners for the license to practice in the State of Pennsylvania, 352 passed.

FOR the month of July public health reports show 2350 cases of smallpox in the United States, with 157 deaths, as compared with a total of 6145 cases for July, 1901, with 158 deaths.

SINCE the outbreak of cholera in the Philippines there have been 21,408 cases and 16,105 deaths in the archipelago. Of this number 48 Americans and 18 Europeans have died since the epidemic began.

WORD has been received of the death of ex-Professor Schenk, who has lived in retirement since he was asked to resign from the Vienna faculty on account of his unscientific promulgation of his theory in regard to sex determination.

THE President has recently placed Milaflores Island, in the harbor of San Juan, Porto Rico, under the control of the Public Health and Marine Hospital Service for use as a quarantine station or site for a marine hospital, or both, as need may suggest.

THE sixth annual meeting of the French Urological Society will be held at Paris, October 23 to 25. The principal question to be discussed is "Indications and Results of Nephrectomy." For further particulars address Dr. E. Desnos, 31 Rue de Rome, Paris.

SEVERAL recent graduates in medicine may secure internships in the Craig Colony for Epileptics at Sonyea in Livingston county, N. Y. The positions are unpaid, but those who hold them get board, lodging, and laundry free. Further information may be had from Dr. W. P. Spratling, Sonyea, N. Y.

PROFESSOR WALDEYER read a paper recently before the Academy of Sciences in Berlin giving an account of the examination of the skull of Gottfried Wilhelm Leibnitz, the philosopher,

who died in 1716. An estimate of the brain weight founded upon measurements of the cranial capacity gave only 1257 grams. This is unusually small, the average weight of the European brain being 1367 grams.—*Medical Record.*

In a recent number of the *India Medical Record* Hen Chandra Sen has collected and translated formulas found in old Sanskrit works for the employment of cobra venom as a remedy. They consist of mercury, sulphur, lead, aconite, and sometimes salts of other metals, mixed with cobra venom and formed into pills. These pills, for some inexplicable reason, must be soaked in the bile of five different animals before they are ready for administration.

The famous Swabian naturalist Professor Gustav Jaeger, of Stuttgart, who is better known in England as "the apostle of normal clothing" than for his numerous learned contributions to zoölogy, biology, and anthropology, celebrated his seventieth birthday last week. A hundred men go to the haberdasher's shop to buy a Jaeger shirt for one who goes to the bookseller's shop to get his great two-volumed "Handbook of Zoölogy."—*American Medicine.*

It is reported, says the *Philadelphia Medical Journal*, that an Austrian physician, by applying carbolic acid gas at a temperature between 100° and 120° F. below freezing, has found a means for giving sick people an appetite. The cold carbolic acid, wrapped in a bag of brown holland, is placed upon the epigastrium a half hour before meals. A layer of cotton-wool is inserted between the bag and the stomach. It is said that after five days' treatment a good appetite returns.

When he is first engaged, a Russian surgeon starts upon the salary of $400 a year. On this pay he remains four years, when he is advanced to $500 yearly for four years. Four years later this is increased to $650; then to $750; the final remuneration, the highest which he can obtain, being $2750 a year. When compared with the salaries of American army surgeons, it will be noted that Russia pays less than half the amount received by United States military surgeons.—*Exchange.*

In view of the great frequency of cases of poisoning by fish toxins, the Academy of Sciences of St. Petersburg has instituted an international competition for the elaboration of protective measures against these cases, provoked entirely by the con-

sumption of imperfectly salted fish. The prizes offered are 5000 and 1000 rubles. The memoirs may be written in French, German, English, Latin, or Russian, and must be presented to the Minister of Agriculture not later than the first day of October, 1903.—*American Medicine.*

The French have a custom of sending a letter to their acquaintances on the death of a member of the family, with the full name, titles, dates, etc., of the deceased. One of these letters *"de faire part"* has been received by the friends of Dr. Felix Marsan, ex-interne of the hospitals of Paris, formerly of Martinique. It contains the death notice of eighty-five members of his family who perished in the Martinique catastrophe, parents, grandparents, brothers, sisters, uncles, aunts and cousins.—*Journal of the American Medical Association.*

The ten cities in the United Kingdom containing the largest number of medical practitioners are the following in numerical order: London, Glasgow, Edinburgh, Manchester, Liverpool, Dublin, Birmingham, Leeds, Brighton, and Belfast. The average number of physicians, per 10,000 of the population, reaches its highest limit, 23.08, at Cliften; next comes Bournemouth, 24.38; Harrowgate 21.11; Cambridge 21.09; Weston-Super-Mare 20.47; and Bath 20.07. The other cities all contain less medical practitioners. In London there are about 12 medical men per 10,000 of the population.—*Lancet.*

Lieutenant Jere B. Clayton, assistant surgeon, U. S. A., in command of the medical expedition sent on the U. S. S. *Dixie* to relieve the sufferers on the island of Martinique, has transmitted his formal report to the surgeon-general of the army. Lieutenant Clayton says that as near as could be ascertained the cause of death was the explosion of an inflammable gas, which was emitted by the mountain. The most plausible explanation of the conditions found, he says, was given by Lieutenant Reilly, who suggested that the gas, as emitted by the mountain, was not inflammable until mixed with a certain quantity of oxygen, which mixture was reached at the time the gas arrived at St. Pierre. It was firmly asserted by all the survivors that every one in St. Pierre was dead three minutes after the explosion took place. The volcano on St. Vincent known as La Soufriere was also visited, and the cause of death there seems to have been suffocation by sulphur dioxide, or some similar gas. It is estimated that about two thousand deaths were caused by the eruption of La Soufriere.—*New York Medical Journal.*

# THE PROGRESS OF MEDICAL SCIENCE.

## SURGERY.

### The Value of Imperfectly Descended Testis.

At the recent meeting of the British Medical Association Mr. McAdam Eccles read a paper under this title. He said that almost every instance of imperfect descent of the testis was associated with a patent processus vaginalis testis, and often with descent of the viscera into the same. Almost all cases of hernia associated with an imperfectly descended testis should be submitted to operative treatment. It is thus that the value or nonvalue of the organ which has failed to pass into the scrotum becomes of great moment, and the method of dealing with it of the highest importance. The function of a testis is primarily to produce spermatozoa for the reproduction of the species, but there is probably at least one subsidiary use. Without either testis in early life the individual would never acquire the full development of the male characteristics, but although he would have no power to produce spermatozoa, yet if he had testes he would still be capable of acquiring most, if not all, the manly peculiarities. Further, although possessing testes, yet the individual might not acquire the male character, showing that these organs are lacking in both their proper functions. The testis, therefore, although it might not have reached its usual habitat in the scrotum, is yet in many instances of use to the possessor in that it will enable him to develop certain peculiarties which he would not otherwise acquire. The value of the arrested organ in the case of unilateral arrest is not of course so great as it is in the case of double arrest, for a single fully descended and fully developed testis is amply sufficient to perform all the requirements of full and complete growth and the development of the male character. Still, even in these instances a value should be, or should not be, set upon the imperfectly descended organ. On the other hand, when the arrest is bilateral the surgeon has very carefully to weigh whether or not the testis has a real value.

An examination of a large series of arrested testes removed from adults showed by far the greater majority had never been capable of forming spermatozoa. There were undoubted instances in which arrested testes had been the seat of spermatogenesis, but it was observed that most of these had been where

the testis had not left the confines of the abdominal wall; in fact, it would seem that abdominal retention was by no means a bar to physiological testicular function. It is essentially the inguinal testis that is deprived of its power of producing spermatozoa. It would seem that delay in the inguinal canal, in the planes of the muscles of the abdominal wall, necessitates failure in the formation of cells capable of giving rise to sperm elements.

There are at least three ways in which the inguinal testis might be dealt with when exposed during an operation for an associated hernia. The first is to bring it down into the scrotum and to fix it there; the second is to replace it within the abdominal wall; the third is to remove it altogether. If the testis has a real value it should be removed. It could be safely returned within the abdomen, for statistics do not tend to show that there is truth in the statement that the imperfectly descended testis when it lies within the abdomen is more prone to become the site of malignant disease than its fully descended fellow. It is on the other hand remarkable that there are few, if any, definite records of testes which have grown and developed so as to become capable of producing spermatozoa after orchidopexy. It would be well that henceforth all such cases should be published.

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### Treatment of Thrombosis of the Lateral Sinus, Following Middle-ear Suppuration.

Dench (*American Journal of the Medical Sciences,* May, 1902) urges prompt and radical operative interference as affording greatest promise of success, especially in those cases where the previous history is obscure, or where, owing to urgency of symptoms, there is no opportunity for further observation. He first of all removes all carious bone, if necessary exposing the dura in every direction, and unless the lateral sinus appears perfectly healthy he makes a free incision into its wall, previously having carefully removed all purulent foci, packing off the antrum with iodoform gauze, and thoroughly cleansing the whole area. The vessel is then cleared of all clots, and curetted until free hemorrhage is established from the upper ends of the sinus, but should the lumen be found to contain a firmly organized clot no removal is attempted, as such a condition cannot give rise to any further infection. Hemorrhage is controlled by packing the sinus with iodoform gauze, and unless the temperature points to continued general infection nothing further is done. Should, however, any pyemic symptoms arise, absorption is prevented by excision of

the internal jugular vein, which, having been exposed in its entire length, is surrounded by two ligatures at its distal end and divided, all large branches being dealt with in a similar manner. The vein is then dissected out up to the base of the skull, where it is again divided between two ligatures, the remaining portion occupying the jugular fossa being easily cleansed through the sinus wound. Occasionally the tissues are found so matted together as to prevent thorough dissection, in which case good results have been obtained by dividing the vessel between two ligatures close to the base of the skull, thus cutting off the infective focus from the general circulation.

Two cases are given in detail: the first, in which the temperature remained high after a primary sinus operation, obviously proving the necessity for prompt measures to cut off the circulation through the affected side; while in the second, which had an uncertain history, fever being kept up by a purulent focus retained in the jugular bulb after the primary operation, the wisdom of cutting off all chance of general infection is seen. In all doubtful cases removal of the internal jugular vein is advised, a simple clearing of the clot out of the sinus being relied upon only in those cases where opportunities for previous observation show no marked signs of general infection, or where curetting of the sinus suffices; removal of the vein never being delayed where evidences of systemic infection persist after the primary operation.

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### Polypoid Excrescence of Tonsils.

G. T. Ross (*Montreal Medical Journal*, July, 1902) reports the following case:

"G. E. T., aged twenty-four, came in April, 1901, complaining of difficulty in swallowing. He was a well nourished man, rather pale, but active, and said he felt well with exception of the trouble referred to. Throat examination showed both tonsils somewhat hypertrophied. From the upper and lateral part of the left tonsil there sprung an elongated mobile structure, having a wormlike appearance. It was smooth, soft, and insensitive to touch, with a grayish color. It projected from the tonsil, forming a kind of horseshoe curve, an inch in length by a quarter of an inch in diameter, the tip resting on the upper surface of the tongue and giving the sensation of discomfort for which relief was sought. It was removed by cutting and bringing away with it a portion of the tonsil, the result being quite satisfactory.

"Microscopic examination showed the structure to be covered by squamous epithelium, having cylindrical cells in the deep layers, and thus it was similar in structure to tonsillar tissue. The bulk of the growth proved to be lymphoid tissue.

"Hajek says some masses of polypoid enlargement take their origin from the strangulation of a portion of adenoid tissue, while other enlargements are an elongation of the point of insertion of an accessory tonsil. There would appear to be no reason why at any point in the ring of Waldeyer the lymphoid elements should not take on an unusually large development, and if such excess of growth occurs at a point where the action of muscular structures would tend to stretch it, the mode of polypoid formation is easily understood. Its infrequent occurrence in the tonsil in this shape induced me to report it."

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## MEDICINE.

### Fallacies in the Copper Reduction Test for Sugar in the Urine.

F. D. Boyd *(Medical Press,* July 9, 1902), gives the following as the principal fallacies met with in testing for sugar:

1. Glycuronic compounds. These occur in the urine of some healthy persons, as well as after taking such drugs as camphor, etc., belonging to the aromatic series, in infectious diseases, and in sepsis, typhoid, tonsillitis, etc. These bodies are generally regarded as protective in their nature and are the results of the conversion of toxic aromatic substances into innocuous compounds. If present in abundance they reduce Fehling, and may be detected by the phenyl-hydrazin bromide method, which yields a microscopically recognizable deposit of crystals, by the fact that they reduce copper and bismuth in alkaline media, by a negative result on applying the fermentation test, and by the addition of hydrochloric acid and orcin or phloroglucin, with which they give a red color, turning a reddish blue, and then throwing down a blue precipitate giving a green solution in alcohol. Finally they may be detected spectroscopically by their characteristic absorption bands.

2. Creatinin is given by the text-books as a possible fallacy in carrying out the test with Fehling. On boiling a urine containing creatinin with that reagent a green discoloration takes place. Creatinin is derived from the food substances, and com-

pletely to reduce 2 cubic centimeters of Fehling .07 gramme is required. This is much more than is ever present in 1.5 cubic centimeters of urine, so that practically this fallacy may be excluded. The test for creatinin is the usual nitro-prusside reaction.

3. Uric acid is another text-book fallacy. Here again a much larger quantity (.03 gramme) is required to reduce 2 cubic centimeters of Fehling completely than is ever present in the urine. Unless there is a very great excess of uric acid present, this, therefore, is a fallacy which need not trouble us at all.

4. Alkaptonuria is not a very uncommon condition in intestinal putrefaction, constipation, etc. Here exposure to the air turns the urine darker, and the addition of an alkali turns it darker still. Fehling's solution gives a dark brown solution turning black, and yielding a black precipitate, which further reduces copper on boiling. The presence of pyrocatechin or hydroquinone in the urine gives a similar reaction. Here the change of color which the urine undergoes is characteristic, and should prevent alkaptonuria being mistaken for glycosuria.

5. As regards the identification of the different osazones—phenyl-glucosazone, phenyl-lactosazone, phenyl-pentosazone, etc.—chemists recommend the estimation of their melting point as the only trustworthy method, but this is not clinically available. It will be found that the crystals of these bodies have a different microscopical appearance, and with a little practice they can be distinguished from one another. The matter may be summarized as follows: (1) Creatinin and uric acid can be practically neglected as a source of error. (2) In alkaptonuria the darkening of the color of the urine is characteristic. (3) No error is likely to arise in carrying out the Fehling test if the observations are made below the boiling point. The Fehling should be boiled in one test-tube, the urine in another, and the two allowed to cool slightly before mixing. By this method only sugar will reduce Fehling. In cases where further evidence is required the phenyl-hydrazin test for sugar, the phenyl-hydrazin bromide test for the glycuronic compounds, and the fermentation test, are conclusive.

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### Positive Diagnosis of Meningitis by Lumbar Puncture.

Dr. Hand (*Pediatrics*, Aug. 1st, 1902), at a recent meeting of the Philadelphia Pediatric Society, read a paper on the positive diagnosis of meningitis, particularly tuberculous, by lumbar puncture. He referred to the difficulty often met with in the

diagnosis of meningitis, not only when meningeal symptoms occur in the course of infectious diseases, but also when they are part of an illness obscure in nature.

When the clinical existence of meningitis is clear a second difficulty arises with regard to the variety, upon which the prognosis largely depends. Inflammation of the meninges always alters the character of the cerebrospinal fluid, the resulting changes being diminution or absence of sugar, increase of albumin, and, except in simple serous meningitis, the presence of leucocytes, bacteria, and frequently endothelial cells. The variety of leucocytes present has often been referred to as of great diagnostic value by some observers; an excess of leucocytes indicating a tuberculous process, while polynuclear leucocytes are in the majority in other forms. Some have been unable to determine this. The writer's own experience is that in some fields of a given slide a differential count is often difficult or impossible, owing to evident distortion of the cells during the process of mounting: but where the handling had been very careful and the nuclei are distinct, a differential count is of value. It does not, however, have the positive value that the finding of specific germs does, and positive conclusions can only be drawn from positive results. In thirty specimens of cerebrospinal fluid examined twenty-one contained tubercle bacilli. The other cases comprised one of cerebral fever followed by recovery, two cases of pneumococcic meningitis—one of normal fluid and one of suspected brain tumor; the three remaining being meningitis of undetermined origin, probably septic, the clinical course not indicating tuberculosis. The estimation of sugar has some value, as a small amount had been found in the serous meningitis and in those cases of tuberculous meningitis tested with phenylhydrazin, the other cases of meningitis not responding to that test. Fehling's solution does not seem delicate enough for the amount of fluid at the disposal of the examiner. Differential counts in the tuberculous cases showed all to have an excess of lymphocytes; while the other cases, except the serous, the normal and the brain-tumor cases, gave an excess of polynuclears, the exceptions having no cellular elements. The percentages of lymphocytes in the tuberculous cases ranged from a minimum of 65 per cent to a maximum of 99.4 per cent, without any marked features in the course to explain this range.

The technique of the examination is of the highest importance, that used by the writer being the following: The fluid should be collected in a sterile test tube, plugged with cotton, and allowed

to stand until a strand of fibrin has formed; this usually forms in from two to six hours, and settles in the bottom. A straight platinum needle—not a loop—is touched to one edge of the fibrin, which is then transferred to a slide, care being taken to tip the test tube so that the fibrin constantly floats in fluid. The excess of fluid is then drained off from the slide and the remainder evaporated by gentle heat; it being not only unnecessary, but usually fatal to the success of the examination, to press the fibrin between two slides. The film is fixed by heat, stained in the usual manner, and then carefully gone over in the mechanical stage.

Since adopting this method the writer believes he has been successful in 100 per cent of the tuberculous cases.

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### Acute Pneumococcus Tonsillitis.

Darieu (*These de Lyon*, 1902) refers to a form of tonsillitis which, though rare, is of great importance. It was described in 1801 by Jaccound and Menetrier, since which time several cases have been noted. Darieu records some fresh observations, and states that 3.7 per cent of cases of acute tonsillitis are due to the diplococcus of pneumonia. In the uncomplicated condition this form of tonsillitis occurs in two varieties—the erythematous and the pseudomembranous. The first usually sets in with a severe rigor, similar to that of pneumonia, with rapid elevation of temperature. The throat becomes painful, red, swollen, and yellow, inspissated spots appear. Usually the condition subsides in three or four days by crisis, the temperature falling from 103° to 99°. The patient becomes rapidly convalescent. The striking feature is the intensity of the febrile phenomena, which are out of proportion to the throat lesion. Another characteristic of these cases is the duration of the disease, its rapid course, and its tendency to abort, the latter being a constant symptom. Thus, a patient to all appearances in a marked condition of pyrexia becomes rapidly better in a very short time. The pseudo-membranous form begins in the same manner, and the general symptoms are similar. The difference consists in the presence of false membrane closely resembling that of diphtheria. Bacteriological examination alone renders diagnosis possible, as the pneumococcus is present instead of the Loeffler bacillus. There is the same sudden crisis and rapid convalescence as in the first form, but the course of the disease is somewhat longer, extending from five to ten days. The diagnosis of pneumococcus tonsillitis is therefore

important; the sudden onset with rigor and rapid elevation of temperature contrasts with the more gradual onset and less severe pyrexia of diphtheria. The extension of the false membrane into the nasal fossæ and the larynx does not seem to occur in the pneumococcus form, but this fact may be difficult to ascertain, and therefore careful bacteriological examination constitutes the safest means of diagnosis. The writer points out the extreme importance of recognizing such cases, as in the event of their being mistaken for diphtheria, and brought in contact with patients suffering from the latter disease, diphtherial infection may be grafted on the pneumococcus. Prognosis is as a rule good.

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### Elastic Tissue in Cirrhosis of the Liver.

Paul Oliver (Transactions of the Chicago Pathological Society, May 12 and June 9, 1902) draws the following conclusions as the result of his work prosecuted in the pathological laboratory of Rush Medical College:

1. Elastic tissue is most abundant in atrophic cirrhosis of the liver. The fibrils seem to be coarser and to form larger bundles. It seems to constitute the greater part of the new tissue, and is principally interlobular in the atrophic cases.

2. In the hypertrophic cases the elastic tissue does not make up a very large part of the newly formed tissue. The separate fibers are finer, as a rule, and in most cases form a delicate network. The elastic fibers extend into the lobules along the capillaries.

3. In the syphilitic cases the greater part of the new tissue is not elastic, although in most cases distinct fibers are found quite abundantly in the interlobular tissue, external capsule, and about healed gummata.

4. With regard to origin, the elastic tissue seems to come principally, if not entirely, from the walls of the blood-vessels. However, in most cases the bile-ducts have a greater or less amount of elastic tissue about them, and where proliferation of bile-ducts is great, the latter are contained in a thick meshwork of elastic fibers, which cannot be traced to the walls of blood-vessels.

5. Not so much of the new tissue is elastic tissue as would at first seem, for Weigert's stain stains both white fibrous tissue, and reticulum when exposed to its action for thirty minutes or more, although not so deeply as elastic fibers. Different specimens seem to vary greatly in this.

### Quantitative Estimation of Fats in Digestive Secretions.

Volhard (*Medical Press,* Aug. 13, 1902) has shown how the digestion of fats could be accurately measured at any instant during the process of digestion. Hitherto the results have been so varied that no real value could be put upon them for clinical purposes. This was due to the cholin with which the secretions were mixed, allowing the digestive process to proceed when placed in a warm room, as the ferment that breaks the fat up went on manufacturing more than it did in the ordinary process. Volhard places the artificial mixture, such as the yellow part of an egg, with the gastric secretion for a given time, when he adds 75 cubic centimeters of pure ether and shakes well. Allowing it to separate he draws off an aliquot part of the clear fluid, say 50 cubic centimeters, to which again he adds a percentage of the fat, broken up in the digestion. By this method he and Slate found that the fat is in regular proportion to the time exposed to the secretion, and confirms Schutz and Borisson's law that the product of digestion is in proportion to the square root of the ferment present.

## THERAPEUTICS.

### Clinical Orservations on the Action of Some Suprarenal Preparations.

S. G. Longworth (*British Medical Journal,* July 19, 1902) says that subcutaneous injections of 1 :1000 grain of 1 :500 grain of adrenalin chloride have recently been recommended in ophthalmic practice to be used immediately before some operations about the eye in order to control hemorrhage, and attention is drawn by the writer to the fact that toxic effects can be produced by suprarenal preparations, but he himself had not noticed any, and thought it unlikely when working with such small doses; this one can endorse, as from observations on several cases in which doses up to 1 :100 grain were given, and sometimes repeated within short periods, no effects beyond those characteristic of the action of the drug, and which could not be regarded as toxic, were observed.

The administration of suprarenal preparations by the mouth has not been found to be followed by such constant results as when given intravenously or subcutaneously, and some difference of opinion exists as to whether it can produce any effect when so given. Schafer states that the active principle is not destroyed by gastric digestion, while Cushny and others state that little

or no effect is observable when administered in this way. Grunbaum, in observation on himself and others, failed to obtain any rise in blood pressure, even after very large doses of suprarenal extract, except in one case of abnormally low blood pressure, in which the rise was not maintained after leaving off the drug. He concludes that normal blood pressures are uninfluenced by the administration of suprarenal extract. With a view of obtaining more definite information in this direction he administered suprarenal preparations by the mouth to six cases, in which he made daily observations of the blood pressure and pulse rate; in two of the cases daily measurements of the caliber of the radial artery were made with Oliver's arteriometer, and in two cases daily records were kept of the total quantity of urine passed, and estimations made of specific gravity, total solids, and the amount of phosphates and urea excreted. Four of the cases were in good health, and free from any organic disease, while of the other two, one was suffering from phthisis and one from epilepsy, but otherwise in good health. Three of the cases were in bed throughout the observations, which extended over periods of from three to five weeks. The preparations used were: A solution of adrenalin chloride 1 in 1000 (Parke, Davis and Co.), tabloids of suprarenal gland, each equivalent to 5 grains of the fresh substance (Burrows, Wellcome & Co.).

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### The Fluorescence of Quinine, Etc., in the Cure of Malarial Fever.

King (*American Journal of the Medical Sciences,* June, 1902) produces evidence in support of the suggestion that since the malarial parasite does not sporulate in the dark, the curative action of quinine may be due to its fluorescence producing violet rays in the blood, and mentions also esculine and fraxine as possessing similar properties, while iodine acts in a like manner by the formation of blue iodide of starch. That quinine actually does produce fluorescence in the body was shown by Bence Jones and others, who found that the slight fluorescence possessed normally by the tissues of man and animals is considerably increased after its administration. In twelve patients suffering from malaria untreated with quinine, the fluorescence of the blood was found to be very markedly below the average when compared with that of a healthy subject, whereas in cases treated with quinine the fluorescence and the condition greatly improved.

In those instances of "malignant infection" where quinine

fails to cure the explanation is sought in the fact that the malarial organisms remain in the internal organs of the body, and do not come into the peripheral circulation, where they could get light, and hence are not able to be influenced by fluorescence; but that directly they do so come to the surface sporulation occurs, with accompanying ague, which the quinine by its fluorescence can arrest. Prior to an attack of tertian ague the corpuscles, enlarged by the presence of the malarial parasites, are arrested in the peripheral circulation, where sporulation takes place, producing the rigor, and the infected corpuscles are dislodged by the contraction of the arterioles, to be replaced, upon their dilatation with fever, by a fresh supply from the deeper tissues, which the peripheral blood-vessels retain until forty-eight hours of sunlight again brings about sporulation and a recurrence of symptoms. If continuously unprotected from light (without clothing, quinine, etc.) the race in time would gain immunity by becoming black from malarial melanosis, as in the dark-skinned peoples at the present day. It is only such part of any generation of parasites which have become arrested in the peripheral circulation from increased size of the blood-corpuscles that sporulate at any given time, the rest following suit as soon as the corpuscles they inhabit become of sufficient size for arrest in the capillaries of the skin, where sunlight may set up their sporulation.

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### Glycerin as a Solvent for Antiseptics.

V. Wunschheim (*Archiv Hyg.*, Bd. xxxix., Heft 2) has recently made a large number of experiments on the question whether glycerin added to antiseptic solutions or used as a solvent affects their bactericidal properties. From his observations he draws the following conclusions: (1) Undiluted commercial glycerin exhibits a bactericidal effect on cholera vibrios, staphylococcus pyogenes aureus, and bacillus coli; (2) in glycerin and water mixtures, B. coli and staphylococcus aureus remain alive longest in those in which the percentage of glycerin is lowest; the effect of high percentages of glycerin in mixture with water appears to differ according to the variety of bacterium used; (3) glycerin solutions of sulphuric acid, oxalic acid, carbolic acid, and three isomeric creosoles, creolin, saprol, thymol, formol, and tannin, correspond in bactericidal powers with watery solutions of these substances of equal concentrations; (4) hydrochloric acid and acetone in glycerin more so; (5) the disinfectant activity of 1-in-40 carbolic in glycerin-water mixture increases with

increased concentration of the glycerin, and in a mixture of equal parts corresponds with the activity of the simple watery solution of 1 in 40. For practical purposes a solution of carbolic acid in pure glycerin should not be a lower percentage than 10, but in a mixture of equal parts of glycerin and water lower percentages than this possess active bactericidal power; (6) carbolic acid, orthokresol, lysol, and kreolin dissolved in glycerin soap solutions are less active than corresponding percentages in simple soap solutions.

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### Ung. Argenti Colloidalis (Crede).

E. Toff *(Münch. Med. Woch.,* April 29, 1902) considers that the soluble preparations of silver form the most powerful methods of treatment of septic infections which we possess. The two best ways of employing these preparations are to inject one-half- to one-per-cent solutions of Credé's silver intravenously, and to employ the ointment. The latter method is more suited for the general practitioner, as the former requires a certain amount of practice and care. He reports that he has used it in his practice with very good results, and gives brief histories of five cases. The first was a case of puerperal infection, and the account shows that recovery took place after the ointment was rubbed in. In the record of the second case no diagnosis is given, the illness being characterized by headache, "eclamptic" attacks (!), pyrexia, loss of consciousness, and retraction of the head; the patient was eleven years old. The third case was another puerperal infection case; while the fourth was a case similar to No. 3, a child of fourteen months, who also had "eclamptic" attacks. Lastly, he reports another case of puerperal infection.

Toff believes that he has given a sufficiently striking account of the action of ung. Credé, all his cases having made uninterrupted recoveries from the moment the treatment was begun. He is of opinion that one should employ this method of treatment in every case of general septic infection.

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### Nucleinate of Iron.

Louis Dar *(British Medical Journal,* Aug. 2, 1902) discusses the therapeutic possibilities of nucleinate of iron, $C_{40}H_{32}N_{14}(Fe_2O_3)_4(P_2O_5)_2,8H_2O$, the form in which iron exists in the egg and which goes to build up the hemoglobin of the chick. It is the only salt of iron which is not converted into chloride by the gastric juice: all other salts on entering the

stomach are changed into chloride, and, when mixed with the alkaline juices of the duodenum, into oxide. The oxide is absorbed by the duodenal cells by a kind of phagocytosis, and on entering the blood is taken up by the white blood-corpuscles and converted into nucleinate of iron. Experiments which have been made with nucleinic acid show that it is harmless to the organism. Basing his inquiries on these considerations the author obtained preparations of nucleinate of iron prepared from casein and from the roes of fish, and administered them to two rabbits, one receiving 10 centigrammes daily of the salt prepared from casein, and the other the same amount of the salt prepared from roe. After ten days the animals, and a control rabbit of the same weight, were killed, and the amount of iron present in their livers was estimated. In the control the amount was 0.041 gramme per 100 grammes of liver, while in the rabbits which had received the iron it was 0.063 gramme per 100 grammes. No attempt was made to ascertain how much iron was fixed in the other parts of the body. The author and others have taken one gramme and upwards of the nucleinate of iron daily without experiencing any unpleasant effects, and good results appear to have followed its use therapeutically. The author is anxious that its effects on the composition of the blood should be carefully investigated by clinicians.

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### Spasmodic Croup.

In a recent number of *Merck's Archives,* Dr. L. Boyer recommends a method to be used in the treatment of croup, which he states he has employed with uniform success for the last four years:

℞ Hydrarg. chloridi mitis..... gr. iij.
Sacchari albi ..... 5ss.

M. Ft. chart. No. viij. Sig.: One powder every two hours.

The foregoing to be alternated with the following:

℞ Apomorphinæ hydrochlor..... gr. 1/6.
Acidi hydrochlor. dil..... min. ij.
Syrupi simplicis..... 5ij.
Aq. destil. ..... 5iijss.

M. Sig.: One teaspoonful to a dessertspoonful every two hours.

The two remedies are given alternately every two hours, so that the patient gets calomel one hour and apomorphine the next. For children under two years the dose of calomel is reduced to one-sixth of a grain. Both prescriptions may be repeated, and

in the author's cases more than two repetitions were never required. The calomel should be discontinued as soon as amelioration sets in, lest untoward results appear.

## OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,
Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

### Chlorosis, a Factor in Disease of the Eye.

George F. Suker *(Medicine,* May, 1902) comes to the following conclusions:

1. Optic atrophy, papilloretinitis, and pseudoalbuminuric spots can and do have chlorosis as their causative factor.
2. Double optic atrophy associated with chlorosis may simulate brain tumor to a marked degree.
3. Headache due to a refractive error and asthenopia are of a severer type when aggravated by chlorosis.
4. Arterial pulsation in the retina is indicative of the severity of the disease, as is also the venous pulse.
5. The fundus lesions in chlorosis are the result of an autotoxemia.
6. The prognosis in nearly every case is favorable, considering the severity of the hemic lesion, excepting in optic atrophy.
7. The foci of fatty degeneration in the retina deserve special attention, so as not to be mistaken for albuminuric spots.

### On Diseases of the Ear in Hysterical Subjects.

Dr. Voss *(Archives of Otology,* August, 1902) says that the objective picture of an acute otitis may appear as a symptom of hysteria.

Pure functional neuroses of the ear should be treated, not by an otologist, but by a neurologist.

In these cases an absolute contraindication exists against too much treatment, especially of the nose and pharynx.

The generally well known craving of hysterical subjects for operations may also center upon the ear (and probably also upon the nose).

Opening the mastoid process to relieve the mastalgia of hysterical patients is absolutely contraindicated.

Our present method of after-treatment of radical operations with prolonged tamponing is not at all suitable for children or

nervous and hysterical patients. After the fifth day the tampon is entirely superfluous and should be replaced by a simple outer dressing.

### The Value of Electrolysis in the Eustachian Tube.

Norval H. Pierce *(Archives of Otology,* August, 1902) says that in otosclerotic disease electrolysis is useless, and in the great majority of cases of catarrhal disease it has no advantages over other methods of treatment. In a certain few cases where there is probably a soft exudate near the isthmus it may be regarded as of some value.

## DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Lecturer on Dermatology, Detroit College of Medicine.

### Influence of Roentgen Ray on Sarcoma.

W. C. Coley *(American Medicine,* Aug. 16, 1902) says that the results in the cases thus far treated prove that the Roentgen ray has a remarkable inhibitory action upon the growth of all forms of malignant disease, and that this is especially true of sarcoma.

That this action in many cases of even far-advanced and inoperable malignant disease may result in the total disappearance of the tumors, often without any breaking down of the tissues, the new growth being apparently absorbed.

Whether the patients have been cured, or the disease has been merely arrested, to reappear at some future date, is a question that time alone can decide.

Recent observations and experiments upon the various forms of carcinoma and sarcoma prove that an agent supposed to be of value only in a very limited class of superficial epitheliomas promises to be of as great or even greater value in practically every variety of cancer.

While at present there is little evidence to show that deep-seated tumors in the abdomen and pelvis can be cured or benefited by the Roentgen ray, there is still some reason to hope that with improved apparatus, or with greater knowledge and skill in using the apparatus that we now have, even these cases may be benefited.

The Roentgen ray has a very marked influence upon the pain of nearly all types of malignant tumors, causing entire relief in many cases.

## GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

Adjunct Professor of Obstetrics and Professor of Clinical Gynecology. Detroit College of Medicine.

### Pelvic Deformity in New York.

J. C. Edgar *(Medical Record,* Aug. 16, 1902) has made observations of 1200 cases of pelvic deformity. He says that of this number, 499, or 41.58 per cent, were American-born women; 215, or 17.91 per cent, Irish; 130, or 10.83 per cent, Russian; 105, or 8.75 per cent, German; 30, or 2.50 per cent, black; etc.

Contracted pelves occurred in forty-four cases, once in twenty-seven cases, or in 3.66 per cent. Generally, contracted pelves occurred in thirty cases, once in forty cases, or 2.50 per cent. Flattened pelves occurred in fourteen cases, once in 85.71 cases, or 1.16 per cent.

Twenty, or 45.45 per cent, of the cases of pelvic contraction were among American-born women, and deformity occurred once in 24.95 of these cases, or in 4 per cent.

Three, or 6.81 per cent, of the contracted pelves were among black women, and deformity occurred once in ten of these cases, or in 10 per cent.

The material gives a frequency of contracted pelves (1200 cases, 3.66 per cent) midway between the conclusions of Williams (Baltimore, 1000 cases, 13.1 per cent), Crossen (St. Louis, 800 cases, 7 per cent), Reynolds (Boston, 2127 cases, 1.13 per cent), and Flint (New York, 10,223 cases, 1.42 per cent).

The statistics, 3.66 per cent of contractions in 1200 cases, differ from those of England (F. Barnes of London, 38,065 cases, 0.5 per cent); of France, 5 to 21.11 per cent; Germany, 9 to 9 per cent; Switzerland, 8 to 16 per cent; Austria-Hungary, 2.44 to 7.8 per cent; Russia, 1.2 to 5.1 per cent; Italy, 18.13 per cent; Holland, 3.51 per cent.

Special or irregular forms of pelvic contraction, as osteomalacia, obliquely contracted coxalgic, double coxalgic, spondylolisthetic, and kyphotic, fractured pelvis, are infrequent in this country.

The generally contracted pelvis is the most frequent deformity met with in New York. The author found twice as many generally contracted as flattened pelves in his material (30.14). Williams found practically the same condition in Baltimore (79.45).

Records kept of private and consultation cases in New York over a period of ten years show a somewhat higher percentage than the results obtained from the 1200 hospital cases, namely, about 5 per cent for all deformities; the generally contracted pelvis being twice as frequent as the flattened.

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### Spontaneous Expulsion of Polypus in Young Women.

Brothers *(American Journal of Obstetrics,* June, 1902) recently exhibited before the New York Obstetrical Society a polypus expelled spontaneously from a young single woman aged twenty-two. The pedicle was an inch and a half long. The tumor was of the cervical mucous type. Brothers stated, however, that it was sent him by a medical friend, who was not permitted to examine the patient, and therefore was not certain whether the tumor was expelled from the rectum or from the vagina. James N. West, in discussing this case, reported a case where a polypus of large size was expelled by a girl aged fifteen. She continued to be delivered of polypi for several weeks, and then came under the care of Bache Emmet. A large mass was then found in the vagina, which recurred on removal. Ultimately the patient was admitted in a hospital under Janurin, who used the curette, as the disease was too advanced to allow of hysterectomy. The patient developed sarcomata in the shoulder and under the breasts, dying about two months after the application of the curette.

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### The Early Diagnosis of Uterine Cancer.

J. O. Polak *(New York Medical Journal,* July 19, 1902) emphasizes the following points in the diagnosis of uterine cancer:

1. The early diagnosis is possible.
2. The earliest symptoms differ, depending upon whether the disease begins during menstrual life or after the menopause.
3. During menstrual life, compare every bleeding with what it has been in the same woman. Be suspicious of intermenstrual spotting and serous discharge.
4. After the menopause, any serous or sanguineous discharge is significant.
5. Examine every woman over thirty who may exhibit any menstrual vagary or persistent leucorrhea.

Finally, limit radical operations to those cases in which the disease is confined to the uterine tissues.

# THE MEDICAL AGE

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## ORIGINAL CONTRIBUTIONS.

### DISLOCATION OF HIP DURING NORMAL LABOR.*

BY L. B. NEWTON, M.D., NORTH BENNINGTON, VT.

If you will bear with me I will report a case of labor terminated by the use of the forceps and an anesthetic. As we proceed we will ask ourselves, Were an anesthetic and the forceps necessary in this particular case?

Much has been said and written on the use of the forceps—some for, and some against, their use in normal labor. But the majority (we may say all) of our best obstetricians are opposed to their use in this class of cases.

It is not my province to give you a learned dissertation on obstetrics, the surgery of the hip-joint, fractures and dislocations, the pathology of diffuse cellulitis, nor the diseases resulting from all these. It is my purpose to give you the facts, history, and treatment of a case which came into my hands in a most unfavorable condition. It may not be of interest to you, but it has been, I may say, of vital interest to me and those who were unfortunate enough to be associated with me. How much interest my predecessors had in the case remains to be learned.

On January 14, 1901, I was requested to attend Mrs. F. R——, aged twenty-seven, the mother of five healthy children. I had attended her in four previous confinements, all of which were natural, and subsequent recoveries were normal.

Before proceeding to make a physical examination of the patient I gleaned the following history:

On the 8th of October, 1900, labor commenced at 10 P.M. In the early morning a physician was called to attend her. Soon after his arrival "the pains" became less frequent and their force diminished. For "fear of exhaustion and to save time" (he said) he administered an anesthetic and proceeded to deliver

*Read before Vermont State Medical Society.

with instruments, by the aid of three neighboring women who were invited to assist, as is usual at such times. In process of time the child was born and placenta delivered. Before the woman recovered consciousness the doctor left for home. During his visit to the patient the next day, she said to him: "Doctor, there is something wrong with my left hip." Without an examination of the case, he replied: "You are all right, only your stomach is a little out of order, and you will be well in a short time," and left.

In a day or two, by reason of pain in the hip and limb, he was requested to call, which he did. Before he left her he learned she had had a chill, and notified her that she was having typhoid fever. In due course of time an abscess began to appear, one and one-half inches below Poupart's ligament, in close proximity and to the left of the femoral vessels.

After about three weeks this doctor was discharged and another called, who opened the abscess and allowed pus to discharge. In a day or two he directed his attention to the healing of the abscess by poultices and antiseptics; and giving her, by way of tonics and anodynes, syrup of hypophosphites, morphine, etc., he left her to recover, or die, as the nature of the case would determine. He presented his bill to the town, and informed the overseer of the poor that his patient would get along without his services.

In a few days from this time, on the 14th of January, I was called to take charge of the case, when the above history was given me by the mother, sister, and patient.

Upon examination I found emaciation, debility, pulse fast and weak, temperature 101°, and anorexia; bowels constipated; sleep out of the question, except by morphine, Tully's powder, etc., which relieved some of her pain and discomfort. Food, such as gruel, broths, and milk-punch, were given her through a drinking-tube, as much as she would take, which was but little, not being able to raise her head from the pillow, or raise her hands to feed herself.

The hip and thigh were swollen and painful; abscess discharging pus. The hip was so swollen and tender that an examination of it was impossible. By palpation, fluctuation was felt from the crest of the ilium to within four inches of the knee.

The thigh was flexed to a right angle with the body and the leg at a right angle with the thigh, the foot inverted. The knee of the left leg laid against the thigh of the right leg, the left knee four inches above the right, and the adductor muscles firmly contracted. From this condition of things my diagnosis was

dislocation of the hip, although there was no possibility of finding the head of the femur, or the trochanter, by manipulation. Upon the back, the sacrum was covered by a bed-sore three by four inches.

What was to be done in this state of affairs? Anxiety prevailed.

There was not an encouraging feature in the case, although she was previously healthy, had gone through former pregnancies and deliveries, and made good recoveries, raising as healthy children as the average of women.

As in all such cases, vigorous efforts must be employed immediately and persistently, yet everything seemed against us. But we made a start.

In the first place we made the sanitary conditions as favorable as possible in the way of cleanliness, antiseptics, disinfectants, tonics, stimulants, nutrients, and whatever else might be demanded.

In course of time the general system began to respond. Abscess healed. Swelling about the hip and thigh greatly diminished. Appetite improved, bowels moved naturally, and strength improved.

With the counsel previously, and at the time (March 17, 1901) the assistance of Drs. Skinner of Hoosick Falls, N. Y., A. S. M. Chisholm and E. B. Daley of Bennington, we reduced the dislocation of the head of the femur, brought the knee and foot into their natural position, and the leg to its proper length.

In the manipulations of the leg in the adjustment of the joints the cicatrix of the old abscess was torn open, and the fibers of the muscles and tendons were ruptured more or less. She was put into bed, with a weight and pulley to the leg to retain the elongation if possible, and kept so for about four weeks.

In a short time after the adjustment of the leg, pus began to accumulate in the tissues of the thigh, which necessitated the introduction of a fenestrated No. 12 rubber catheter as drainage-tube, two-thirds of the length of the thigh.

Soon after the healing of the thigh, the knee-joint became swollen. It was opened and about two ounces of pus evacuated.

July 1 she was discharged with the left leg about one and one-half inches short. Motion of the joints fair. She is gaining in flesh and able to have the whole care of her family.

Now to the point. When was this dislocation produced? Both physicians who had the case before me say the woman was all right when they left her.

How was it produced? Did the head of the femur escape

from the acetabulum and rupture the capsular ligament spontaneously and within twelve hours after delivery? Or, as Dr. Woodard used to say to us, back in the early sixties, was it a case of meddlesome midwifery?

Having been in active practice nearly forty years, I have never seen nor heard of a case like it. An extended search through obstetric literature reveals nothing of the kind.

My second purpose in this paper is to show the younger members of our profession that there is a heavy responsibility resting upon them. It matters not how well learned they may think they are.

In every case you may be called upon to treat, it is the duty you owe to yourself, your patient, the friends, and the profession to bestow all the skill with which science has endowed you upon the welfare of the patient, let him or her be rich or poor.

The public demands at your hands thoughtfulness, precision, time, patience, skill, and, above all, honesty.

In the pursuance of the second part of this question, we think it would be well to investigate what we and others have to say in regard to the use of those powerful instruments, the forceps. One good man has said: "Prolonged and very difficult labors may be perfectly normal, and it is in these cases that we are tempted to use the forceps, and in these, I think, we are most likely to make a mistake."

While it might seem unnecessary to say that we should be slow to resort to them under such circumstances, yet I can easily believe, from my own experience at least, that there is often need of caution. I am aware of the fact that here, as well as elsewhere, there are two sides to the question. But granting the truth of the well established principles of obstetrics, I believe you will all agree with me that, unless our memory is occasionally refreshed on some points, we are likely to consent to the use of measures in actual practice not in accordance with the principles of science. Now, to be more specific, I will say that, so far as I have observed, with reference to the sequelæ of prolonged and difficult labors, it is not best to use the forceps—I mean with few exceptions; and the exceptions would be these:

*When Forceps May be Used.*—A tendency to exhaustion of the patient, or a sufficient prolongation to produce an inflammatory state of the parturient canal, and a consequent danger of infection. In these cases I would not, of course, advise long delay. Of course, the propriety of instrumental delivery, or some help in cases of prolonged labor from uterine inertia, no one would question. But, outside all these, there are a great many

cases, especially among primiparæ, when the labor had perhaps better be prolonged for the safety of the woman.

In fact, without seeing it at the bedside, it would be hard to believe that some of these labors would terminate favorably (or at all) without instruments. But they do get through as a rule with patience and long suffering, and, what is quite important, they do not have any serious sequelæ. So while I do not go on record as opposed to the use of the forceps in proper cases, I have been very much impressed with the fact that a great percentage of labors (normal but prolonged ones) should not be hurried too much by the use of instruments. Now the reason, as I see it, is this: there is evidently a cause for the delay, and in the class of cases I am talking about it is the rigidity of the soft parts, particularly the perineal muscles, and it seems to me that there is one thing indispensable, viz., time for relaxation to occur. And if this is not allowed, laceration in many cases would be inevitable.

Then, while surgery takes care of perineal lacerations with good results as a rule, perhaps, yet there are so many circumstances that, in one way or another, keep the surgeon from seeing these cases afterwards, that it is a question with me whether for this very reason the use of instruments should not be very much restricted in any normal birth. For an extensive laceration, when it has once occurred, may be hazardous in spite of all the attention both of the surgeon and the accoucheur. I would not say that the long suffering should be allowed to go to the point of barbarity at all, but that so long as the contractions are good and accomplishing some headway, and no serious consequences of the delay are apparent, we should not yield to the clamor of the woman, nor of her friends, for instrumental delivery; and I further believe that if we do, it is often the worse for the patient in the long run. In this connection we might also say that the duration of a normal labor may be anywhere from one to twenty-four hours, without any symptoms of urgency arising.

Then when we reflect that ninety-five per cent of all labors are normal, head presentations, the importance of avoiding unnecessary injury seems apparent.

I will say also that a personal observation, in the last year alone, of a half-dozen primipara confinements has demonstrated to me that, while there may be a delay, yet the great percentage will get along without instruments.

These cases that I refer to were normal labors, but they were all difficult, and there could be no question about the suffering

on the part of the patients; but so far as I remember none of them extended over fifteen hours. All recovered perfectly, and the children were likewise healthy.

Furthermore, it would be useless to expect labor without suffering on the part of the patient with our present state of civilization. It might be true that with every law of hygiene complied with and bad hereditary tendencies eliminated we might have labor without much pain, as it is talked about by some enthusiasts. But inasmuch as such conditions can never be brought about, we cannot expect our lying-in women to avoid suffering. I want to say, too, that I refer all along to normal labors—labors that do terminate, when left to themselves, in good shape. In other words, duration of labor alone is not sufficient to base the use of the forceps upon; and as to suffering, it alone is not sufficient, for in extreme cases, and in fact in any suitable case, chloroform can be used with decided advantage.

*Injuries Done by Forceps.*—Now as to the injuries done by forceps I want to be fair and unequivocal. I am aware that it will make a great difference who has hold of them. But we must take the matter as we find it, viz., as it is done in everyday practice by all kinds of practitioners. I could not deny that they may, in good hands, be used to overcome the cause of delay with much dexterity, and I must also confess that they have been used with apparent impunity, for I myself have employed them without any bad results in some cases.

But when a labor that would last, say, twelve hours without instruments is terminated in half the time by forceps, there must at least be more risk. This would seem to be self-evident.

Granting, then, that forceps delivery, as it is practiced in promiscuous practice, may be the cause of more serious and more frequent lacerations, and knowing that it is only a small percentage of these lacerations that get the attention of the surgeon when it is needed, I think I am justified in saying, "Go slow with the forceps in normal labors."

I make this assertion in view of the fact that the total amount of traumatism from instrumental cases is practically greater than it would be if the use of instruments were more restricted, because only a few men are in actual fact experts in handling them.

To repeat and conclude, diligent search of the literature of obstetrics and surgery results in the finding of nothing parallel to this case. We find cases reported where there have been dislocations of the hip from disease of the joint from suppuration of the capsular ligament, ligamentum teres, and continued forci-

ble contraction of the muscles holding the femur to the pelvis. From these causes we can imagine how it can be readily brought about. But in this particular case the woman had always been perfectly healthy—never had any lameness from disease of any of the joints, and never had any trouble in recovering from her four previous confinements.

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## THE GALL-BLADDER.*

BY J. LIVELY JOHNSON, M.D., LOUISVILLE, KY.

It is unnecessary to state that the operative technique of the gall-bladder is of comparatively recent origin; nevertheless, its practical significance is destined to become an important factor in the surgical world.

Only in the last decade have diseases of the gall-bladder emerged from the obscurity which has so long baffled and perplexed the profession; but under the influence of the strong search-light, now beating so fiercely upon the scientific world, the gall-bladder, with its attendant diseases, has not escaped the vigilant scrutiny of pathological research.

With increasing wisdom, the result of scientific investigation, we may no longer err in our diagnosis of diseases of the gall-bladder.

Symptoms of diseases of the gall-bladder are numerous, and may be mistaken for any one of a number of other diseases. Gall-stones, however, may exist indefinitely, without marked symptoms.

Gall-stone colic never occurs while the gall-stones remain in the gall-bladder, and it is only when attempting to pass through the cystic and common ducts that colic and jaundice are present. Jaundice may be due, however, to pressure by tumors, and from other causes, upon the bile-ducts.

Pleurisy is occasionally mistaken for gall-stone colic, as is also lead colic and gastric ulcer. In lead colic is found the characteristic symptoms of lead poisoning—this disease almost invariably occurring in the male.

In gastric ulcer the pain radiates to the left shoulder, while in gall-stone colic the pain is most severe in the right. This I regard as a practical as well as an important point of differential diagnosis.

*Read before the Kentucky State Medical Society at Paducah, Ky., May, 1902.

Vertigo, slight syncope, temperature, chills, and sweating, are symptoms frequently accompanying diseases of the gall-bladder.

The knowledge that some catarrhal condition of the gastro-intestinal tract exists is sufficient evidence to arouse suspicion of gall-bladder disease; and this is more true in women, as the female is four times as frequently the subject of gall-stones as is the male.

Statistics show that twenty-five per cent of all women over thirty-five years of age are the victims of gall-stones.

It is claimed that at least two millions of the inhabitants of the German Empire are suffering from the effects of gall-stones, and that one million more present symptoms of this disease. It has been further stated that at least ten per cent of the population of the entire globe are the subjects of gall-stones, or of gall-bladder disease.

In an examination for gall-bladder disease, great care should be exercised to differentiate disorders of the gall-bladder from diseases of the pleura, gumma of the liver, intercostal neuralgia, nephritic colic, floating kidney, etc.

The majority of cases of infection of the gall-bladder are usually accompanied by symptoms simulating typhoid fever, and quite frequently an attack of acute cholecystitis follows this fever.

In connection with gall-stones we nearly always find atrophy of the gall-bladder, and particularly is this true when there is occlusion of the cystic duct due to a stone.

In 657 cases of gall-stones, 73 per cent showed atrophy of the gall-bladder. Statistics demonstrate that 80¼ per cent of all gall-stone cases indicate atrophic changes in the gall-bladder. Experience teaches that many obscure cases of chronic dyspepsia may be traced to diseases of the gall-bladder.

Two of the most important and most pointed symptoms of disease of the gall-bladder consist of the expiratory groan and the temperature angle. The first of these is elicited by placing the patient in the supine position, directing a deep inspiration, and at the same time pressing the fingers well up under the free border of the ribs on the right side. It is very perceptible that the deep inspiration taken by the patient depresses the diaphragm, thus bringing the gall-bladder in contact with the fingers. If disease of the gall-bladder is present, an expiratory groan escapes from the patient, otherwise there is no pain on pressure. The second is the temperature angle, which is always indicative of sepsis, due to an inflammatory condition and pus formation in the gall-bladder. The temperature ranges from 100° to 104°,

and is marked by its sudden rise of one or more degrees, where it remains stationary for a few days and as suddenly drops to about normal, where it stands for an indefinite length of time, then as suddenly rises again.

These two symptoms, if present, are conclusive evidence of sepsis arising from pus formation in the gall-bladder, and demand immediate operation. A blood examination, with pus in the gall-bladder, as elsewhere, reveals a neutrophilia.

Adhesions of the gall-bladder to the stomach or other abdominal viscera may cause pain, where there is no disease of the gall-bladder *per se*. This, however, demands operation for the relief of any tension to which the viscus may be subjected.

Operate as soon as possible after a diagnosis of pus in the gall-bladder has been made, as the viscus is likely to rupture at any moment, or to become adherent to the stomach or intestine.

The prevalence of gall-stones is far more extensive than is generally suspected. Many cases exist for months, and even years, without inviting a diagnosis.

At the necropsy upon our eminent contemporary, the wise and lamented Fenger, his gall-bladder was found to contain three stones, the presence of which he doubtless had not dreamed.

A recent operation, upon a patient sixty years of age, revealed three very large stones; in this case not a single symptom of gall-bladder disease had presented until three days prior to the operation. In this patient, contrary to the rule, the gall-bladder was enlarged to several times its normal size. It was thought best to dissect out the entire mucous membrane of the gall-bladder down to the mouth of the cystic duct, which was done, and the gall-bladder completely obliterated. The patient made a prompt and uneventful recovery, leaving the hospital at the expiration of three weeks.

I shall refer to the medicinal treatment of gall-stones only to call attention to its utter inability to remove gall-stones, either by expulsion or dissolving of the stones. There is no remedy known to the profession, the efficacy of which will not destroy living tissue, that is capable of dissolving gall-stones in the test-tube.

The administration of olive oil and similar products may occasionally aid the expulsion of gall-stones, but these instances are so rare as to preclude comment.

A specific diet, as a curative agent, is unimportant in diseases of the gall-bladder; but such food as will maintain the stomach and bowels in the best condition should be recommended. Loose clothes, exercise, and massage, are also important accessories to the comfort of the patient.

An operation should be performed for the removal of gall-stones as soon as a diagnosis is made, as ulceration, adhesion, and perforation, with expulsion of the gall-stones into the intestine, may occur at any moment. Should this complication arise, the patient is then liable to impaction of enteroliths, varying in size from that of a filbert to a stone quite sufficient to completely occlude the intestinal tract.

While in the intestinal canal the stone gradually increases in size, by the formation of concentric layers of phosphate of ammonia and magnesia. I recall, from an early experience, the case of a woman for several months a sufferer from severe abdominal pains, who passed three large enteroliths of a jagged appearance, followed by profuse and repeated hemorrhages from the bowels, thus depreciating her vitality to a very low ebb. Had my familiarity with the symptoms of gall-stones been sufficient to make a diagnosis, followed by prompt operation, I might have saved my patient much suffering and prevented perforation of the gall-bladder, and escape of the gall-stones into the alimentary canal, thus removing any possibility of the stones passing into the peritoneal cavity, exciting general peritonitis, a condition almost invariably, with or without immediate operation, producing death.

Among the indications demanding operation upon the gall-bladder, I shall mention the following: Gall-stone colic, sepsis, empyema of the gall-bladder, jaundice, or obstruction of the bile-ducts, fistulous openings, and fat necrosis.

In carcinoma of the gall-bladder operation should not be attempted.

The morphine habit is frequently acquired as the result of the surgeon's inability to recognize and operate upon these cases at the proper time.

It is sometimes very difficult to examine the gall-bladder, even after the incision is made, through which it is exposed, because of its atrophic and retracted condition.

Mayo, of Rochester, Minn., has perhaps done more gall-bladder work than any other American surgeon, with the possible exception of Murphy, of Chicago. Of 320 cases operated upon by Mayo, the gall-stones were found outside of the gall-bladder and ducts in 13 cases, due to perforation.

When there is occlusion of the cystic duct, due to a firmly impacted stone, or when the mucous membrane of the gall-bladder is extensively diseased, the gall-bladder should be obliterated by thoroughly dissecting out the entire mucous membrane, as far down into the cystic duct as possible, where it is ligated

and cut off; or the peritoneum may be split along each side of the cystic duct and the duct ligated. There is practically very little danger of postoperative hemorrhage following dissection. Mayo, from his wide experience, reports one case with slight hemorrhage, which continued for twelve days.

The recurrence of gall-stones after operation is exceedingly rare; however, in some cases the pains continue, the cause of which is yet unknown.

Cases proving fatal from diseases of the gall-bladder invariably present symptoms of kidney involvement at least twenty-four hours before death.

The presence of steapsin in the urine is proof of fat necrosis, which is conclusive evidence of the presence of gall-stones. Patients with ecchymotic spots, extreme jaundice, or malignancy, are poor subjects for operation, and it is from this class of cases that we derive our mortality.

It is essential that the technique of gall-bladder operation and its after-treatment should be well understood. Following a thorough preparation of the patient, the field of operation is covered with the rubber dam, a piece of adhesive rubber tissue 8 by 10 inches in size. Through this dam an incision is carried down through the rectus muscle to the peritoneum; this is picked up and incised between two tissue forceps, and its cut edges are clamped with hemostatic forceps to prevent retraction. A search is now made for the gall-bladder, and when found it is seized by its tip with a pair of gall-bladder forceps and brought out through the wound for one inch. The gall-bladder is then stitched with a continuous catgut suture to the parietal peritoneum, beginning at the superior angle of the wound, with a suture armed with two needles, one of which is carried around the outer half of the circumference of the gall-bladder, the other around the inner half to the inferior surface of the gall-bladder, where they are securely tied; anchoring the gall-bladder to the parietal peritoneum, completely closing off the peritoneal cavity. The tip of the gall-bladder is drawn well up by the forceps and a coffer-dam of iodoform gauze placed snugly around its free end, after which the tip of the gall-bladder is stitched with one silk suture on each side to the skin. This accomplished, the gall-bladder is then opened and its contents partially or completely evacuated. In the majority of cases, however, it is preferable to remove only a limited number of the stones at the primary operation, allowing the others to come away gradually as the drainage proceeds.

The dressing consists in leaving the rubber dam in place for

the protection of the skin throughout the whole of the after-treatment, never causing the slightest dermatitis, being prepared as is the oxide of zinc adhesive plaster. A rubber drainage-tube, large enough to snugly fill the opening in the gall-bladder, is passed to its bottom, secured by a safety-pin and left for drainage. To the rubber drain a few feet of rubber tubing is attached, to convey the bile and other débris into the waste bucket. Carefully placed around the drainage-tube is packed the ordinary cotton and gauze dressings.

The patient is placed in bed in a semi-reclining position, at an angle of 45 degrees, to insure perfect drainage, and it is remarkable with how little inconvenience the convalescence is attended. At the end of from three to five days the wound is inspected for the first time, and not infrequently with the withdrawal of the drainage-tube numerous stones are expelled and a profuse discharge takes place. A search is then made for any stones that may have remained in the gall-bladder, and when found, and especially if impacted in the mouth of the cystic duct, they are often very difficult of extraction.

In some cases it requires hours of the utmost patience upon the part of the surgeon to extract an impacted stone from the mouth of the cystic duct. This work is not accomplished by mere touch alone, but by inspection through the speculum. The stone may in this manner be brought as perfectly into view as if held in the palm of the hand.

If after about twenty minutes' work the stone is not dislodged, the drainage-tube is replaced and the patient is returned to bed, when the stone is left to nature, until the next dressing, three or four days later, when another effort is made to dislodge and remove the stone. This procedure is continued, with exceeding care, until all of the stones have been extracted. In some cases many weeks are required to accomplish the desired result.

Through the electric or common speculum, with a good light, the mucous membrane of the gall-bladder, and even the mouth of the cystic duct, may be thoroughly inspected; and when relieved of all stones and disease, the drainage-tube is removed along with the coffer-dam, and the wound permitted to close spontaneously, it not being good practice to attempt by surgical means to close the fistulous opening.

## SHALL WE MAKE OUR CONSUMPTIVES SOCIAL OUTCASTS?

BY J. HOWE ADAMS, M.D., PHILADELPHIA, PA.

In making advances in the field of medicine it is important that they be accomplished not only in a scientific manner, but with great benefit to suffering humanity. It is one thing to sit down in a laboratory or stand up in a medical meeting and promulgate ideas; it is quite another thing to carry out these views in active every-day life. We must remember that we must deal with large bodies of men, ignorant of medicine, generally ignorant of scientific matters, prone to jump to sweeping conclusions, and as a class distinctly hysterical, for there is no doubt that hysteria can be a national disease as well as a local condition. Such an advance to be carefully considered is the registration of consumptives as sufferers from a contagious disease. Much enthusiasm has been aroused in medical circles on this subject, and the writer has been one to advocate this advance until brought face to face with its actual results, when he finds himself far less enthusiastic. In order to present all phases of the subject he will review both sides of the question before stating his personal experiences in the matter.

It has been well said that tuberculosis is "the white plague;" it is a disease which produces from twenty-five to forty per cent of suffering and death at the best period of life—fifteen to sixty-five—but so accustomed have we become to its ravages that we look upon these results with indifference. Yet conditions have improved vastly in the past fifty years, the death-rate from this cause having fallen tremendously; but the work to be done is still staggering in its immensity. No intelligent student of medicine denies the urgency of the case; the only point of dispute is the method by which to accomplish the best and quickest results.

Dr. Briggs, of New York, has been one of the most active in endeavoring to get local boards of health to take action on registration, and his arguments are very strong; in a condensed form they are as follows:

1. Tuberculosis is an infectious and communicable disease produced by the tubercle bacillus.

2. There is no satisfactory proof that the tubercle bacillus multiplies outside of the living body under natural conditions; it follows as a necessary sequence that every case of tuberculosis is produced by the reception of the same *identical* tubercle

bacilli which have been thrown off by some other human being or by some animal suffering with tuberculosis.

3. The tubercle bacilli producing an infection are generally obtained from dust contained in the air breathed or in the drink or food taken.

4. The tubercle bacilli thrown off by a person or animal suffering from the disease are contained solely in the discharges from the tuberculous tissues, and it should be possible to control absolutely their dissemination.

5. It follows therefore that tuberculosis is preventable, and in the early stages clinical experience shows that it is curable.

6. It is by far the most fatal disease with which we have to deal, and from both an economic and sanitary standpoint is of vastly greater importance than any other infectious disease.

7. Its prevention requires the exercise of enlightened cleanliness on the part of its victims, which presupposes education, suitable hospital accommodations for the care of advanced cases among the poor, and the efficient disinfection of dwellings.

Dr. Briggs believes that these results cannot be obtained without registration as in contagious diseases. There is no doubt that the registration can be made in a quiet way, without publicity to the patient or the community at large; undoubtedly this is no argument against its use. Again, the argument that consumptive persons would be discriminated against is claimed to be exaggerated, although this is a matter to be considered only in actual experience. In 1897 the Board of Health of New York adopted the following ordinance:

*Resolved,* That pulmonary tuberculosis is hereby declared to be an infectious and communicable disease, dangerous to the public health. It shall be the duty of every physician in this city to report to the Sanitary Bureau in writing the name, age, sex, occupation, and address of every person having such disease who has been attended by or who has come under the observation of such physician for the first time, within one week of such time. It shall also be the duty of the commissioners or managers, or the principal, superintendent, or physician of each and every public or private institution or dispensary in this city, to report to the Sanitary Bureau in writing, or to cause such report to be made by some proper and competent persons, the name, age, sex, occupation, and last address of every person afflicted with this disease, who is in their care or who has come under their observation, within one week of such time. It shall be the duty of every person sick with this disease, and of every person in attendance upon any one sick with this disease, and of the authorities of public and private institutions or dispensaries, to observe and enforce all the sanitary rules and regulations of the Board of Health for preventing the spread of pulmonary tuberculosis.

It will be noticed that the ordinance avoids calling consumption contagious: it is labeled "an infectious and communicable

disease," but to the world at large this is splitting hairs. "Infectious" to the world means "contagious," and no other construction can be placed upon the term. As yet the New York board has confined its action to the tenement house problem; it has not attempted to interfere with patients living in good circumstances, assuming that the attending physician is capable of dealing with the problem as it presents itself there.

This is the favorable side of the question; the other will bear study as well. Registration of tuberculosis has been tried before with varying results. As far back as one hundred years ago the city of Naples attempted this problem and gave it up in failure. Concealment and evasion was the only result. The idea has been advocated in England and France with indifferent success. The Academy of Medicine in Paris reported against the idea, on two grounds: (1) that notification involved the divulging of medical secrets, and (2) that in a family unwilling to follow instructions, restriction would be impossible, and hence no good could come of the act. The English adverse view is expressed by Sir Richard Thorne, medical officer to the Local Government Board of Great Britain. He says:

"The justification for the demand that phthisis shall be compulsorily notified lies in the fact that the person in question is suffering from a dangerous infectious disease, communicable from person to person; hence the question is already arising, whether it is right to allow such a person to be in constant association with hitherto healthy people by day, and still more so by night. It is quite certain that the need for adopting special precautions as to the sputa, etc., would lead to a large number of such persons being quietly dismissed from their posts. If such persons need fresh employment they will certainly take care to avoid directing attention to their malady by the adoption of the precautions urged on them by the interests of the public, and it is equally certain that they would to the utmost avoid consulting another medical practitioner, because their disease would again be known, and the same consequences that followed the first notification might again be brought about. Without following out such cases as these for several years and to the bitter end, it will suffice for me to say (adds Thorne) that in my opinion a large amount of harm would result if phthisis were included in the list of notifiable diseases under the English act. The certain knowledge that notification and the intervention of public officers would ensue would prevent resort to medical advice in the early stages of the disease when its progress can best be arrested."

He further says: "I believe that the attempt on the part of

the phthisical persons to avoid notification would in itself do a great amount of harm, not only to the individuals already suffering, but to the healthy with whom they are in daily association. The English law as to the compulsory notification of contagious disease was never intended to bring under a system of public supervision even a single individual who during a long series of years would have to follow his or her usual vocation. This supervision might in a majority of cases be carried out with every discretion and every effort to avoid publicity, but if it were carried out under the present system of sanitary organization or under the present law it could not but run the risk of leading to hardship beyond that which the public has a right to expect others to suffer on their behalf, and indirectly this would, in the end, defeat the primary object held in view."

As the writer has stated, he inclined to the view that consumptives should be registered and their habitations (especially the poorer ones) looked after by local boards of health, until within the past two years—during this time it has been his lot to be thrown in the company of hundreds of people from different sections of the country in a region where tubercular patients were sent, viz., the Adirondacks. He has found that people, quick nowadays to accept new theories of medicine, have accepted "consumption as contagious," and the only other contagious diseases known to them being smallpox, scarlet fever, etc., they have begun regularly to shun consumptives as religiously as they would lepers.

The region in which I have been visiting for two years has been the resort of consumptives for fifty years, and until two years ago they were treated with thoughtfulness and consideration. The proprietor of the place, himself forty years ago a consumptive, states to me he has never seen a case develop from the association of consumptive with non-consumptive cases. But two years ago he found his old patrons were writing: "We will not come to your place if you take consumptives, for we do not want to get the disease." This may seem like a laughing matter to many, but to this man it was a severe blow. He had been taking phthisical cases for years, most of them at a low charge, and now he must turn them loose, to please his other guests.

The consumptives themselves were quick to realize the change. They were not wanted, not merely at the dining table or in the bedroom, but their presence on the porches or even on the lawns was objected to. I have seen ladies draw their shawls across their faces when a consumptive approached, and I have known men to refuse to play cards with such cases for fear of

getting consumption. This fear was not confined to people from one section of the country; every one was infected with it.

This year the feeling has grown tremendously. The dictum was sent forth: no consumptives must be allowed anywhere in this region. Hotel proprietors are announcing triumphantly on hotel stationery and walls that "no consumptives are taken." As a result, at my resort the consumptives were forced to retire to a shack in the woods, hidden from sunlight, poorly ventilated and heated, and as the weather was cold and damp, the thermometer running as low as 37° in early morning, they ran down hill perceptibly. One man in two weeks' time became a hopeless, helpless wreck, condemned to live alone as an outcast. It affected the spirits of the patients terribly; they became bitter against the people of the place. In passing groups of guests, the consumptives fell into the habit of saying, half ironically, half pathetically, "Don't be afraid, we're harmless." But the sting was there; they felt that they were thought harmful, and it was terribly, doubly depressing.

I sincerely believe that this feeling is spreading rapidly. In being just to the community, we are unjust to the individual.

Nor is this feeling confined to the Adirondacks. We find legislatures of States seriously considering the exclusion of foreign consumptives; we find railroad directors studying the idea of separate cars for consumptives. Before we know it, we will have this unfortunate in the same class with the leper. It makes little difference to the typhoid case if he is registered temporarily, for he is not able to attend to business; so with the smallpox or scarlet fever cases. But the consumptive is a chronic case running on from year to year; he must live, he must generally make that living. His registration, with power of compulsory action on the part of a board of health if thought necessary, places him dangerously near the class of the leper. This is due to calling consumption contagious. A heavy enough burden has been put already on these patients, and we as physicians must remember that words are powerful. The word "scab" has kept many a workman in ranks he did not care for, so the word "contagious" should be eliminated in talking of phthisis.

My suggestion is as follows: Local boards of health can find the unsanitary spots, the unhealthy houses in the various cities. I do not doubt that Dr. Briggs could pick out in New York a large percentage of places that must be unhealthful; let them be watched, rebuilt, improved, and depend on the good sense of the general practitioner to educate his patients and the public how to handle a disease that, although world-wide spread,

is not contagious. It is estimated that in Philadelphia, a city of small houses and great spaces, eighty per cent of consumptives are in the poor classes. It requires no registration to find these unhealthful houses. Again, it would seem as if too much stress has been laid on expectoration as practically the sole source of infection. It is well known that confined animals are peculiarly liable to tuberculosis. It is the bane of all zoölogical gardens where caged animals are kept, and yet none of these animals are spitting animals. Man alone is a proverbial and steady spitter. Hence how can the sputum be the man's cause of tuberculosis when the disease is so common in these animals.

If we must have registration, let it be of places, not people.

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THE faculty of the Cincinnati College of Medicine and Surgery decided on August 8 not to reopen for the coming fall session. The reason for this closure is the falling off in attendance, which has become so marked in all the institutions of medical teaching throughout the State since the entrance requirements have become so rigid. In Toledo and Cleveland combinations of rival medical schools were necessitated. The Cincinnati College was founded by an act of legislature March 7, 1851, by Dr. A. H. Barker, of Eaton, Ohio. The list of those who have been members of the faculty include some of the most prominent names connected with medical education of this State: Drs. Thad. A. Reamy, Daniel Young, P. S. Conner, C. G. Comegys, Tate, Wright, Vaughn, and Charles A. L. Reed.—*Journal of the American Medical Association.*

THE following delegates have been appointed by the Secretary of the Treasury to attend the international sanitary conference to be held in Washington, D. C., in October next: Surgeon-General Wyman, U. S. Marine Hospital Service; Passed Assistant-Surgeon M. J. Rosenau, U. S. Marine Hospital Service; Dr. H. L. E. Johnston, Washington, D. C.; Dr. Arthur K. Reynolds, commissioner of health, Chicago, Ill.; Dr. Edmund Soucgon, president of the Louisiana State Board of Health, New Orleans, La.; Dr. J. Y. Porter, State health officer of Florida, Jacksonville, Fla.; Dr. A. H. Doty, quarantine officer, port of New York; Dr. L. M. Powers, health officer, Los Angeles, Cal.; Dr. Charles B. Adams, Iowa State Board of Health, Sac City, Ia.; Dr. F. W. Porterfield, Atlantic, Ia.; Dr. Fred W. Powers, Iowa State Board of Health, Reinbeck, Ia.; Dr. James T. Priestly, surgeon-general Iowa National Guard, Des Moines, Ia.

# THE MEDICAL AGE.

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EDITED BY FREDERICK W. MANN, M.D.

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## EDITORIAL ARTICLES.

### THE CHOICE OF CLIMATE FOR PULMONARY INVALIDS.

The question of a choice of climate for those suffering from pulmonary troubles is one the physician is often called upon to settle. Unfortunately the majority of those so afflicted are unable to leave home at all, but to those more fortunate this is often the only means of saving their lives. The open-air treatment of pulmonary affections which has of late been so strenuously advocated by the profession makes the proper choice of climate a thing of great importance and one to be carefully considered. Many sanitaria for this method of treatment have been built during the past few years all over the country; so that at present the physician has the assurance that whatever part of the country he may select as the proper one to send his pulmonary cases, they will find comfortable quarters and the care and attention which to this class of invalids is so necessary.

The following indications have been laid down by Sir Herman Weber, of London, a leading authority on the question of altitudes as to the choice of a climate for pulmonary invalids:

In cases with limited disease at one or both apices, without or with only a slight amount of fever, nearly all climates can be made use of, especially great altitudes and sea voyages, if the constitution is a strong one.

Cases with limited local disease and high fever must be at first treated in their homes or immediate neighborhood.

In the majority of cases with extensive disease of one or both lungs, without fever or with only slight fever, treatment at only a moderate elevation, or at warm seaside localities, deserves the preference.

In advanced cases with fever, neighboring sheltered health resorts, with careful supervision, should be recommended.

In cases of progressive tuberculosis, with scattered foci in both lungs and much fever, localities near home, or the home itself, are the best places.

In cases of chronic, slowly progressive phthisis, better results are obtained from warm winter resorts, or sometimes from sea voyages.

Quiescent cases, with extensive damage or cicatrization, are generally better off at only slight elevations.

Cases with albuminuria, without fever, should avoid great altitudes.

The complication of moderate diabetes does not exclude great altitudes, but the latter are injurious in cases of advanced diabetes and emaciation.

Chronic cases, with much catarrh, require places with as little wind as possible.

Great altitudes are contraindicated in chronic cases with extensive emphysema.

For the prevention of scrofula and tuberculosis all healthful climates can be used, but great altitudes have advantages against tuberculosis, and marine climates (including sea voyages) more against scrofula.

The cure of tuberculosis during the early stages is possible in all climates, but climate itself, without careful medical supervision, is generally insufficient. The patient's blind reliance on the climate often leads to errors, to aggravation of the disease, and to death.

## EDITORIAL NOTES.

### The Death of Virchow.

On September 5 at Berlin occurred the death of Rudolph Virchow, the greatest pathologist in the world. He was born in Schievelbein, Pomerania, October 13, 1821. Virchow's career was one of the most remarkable in the annals of medicine. For more than fifty years he has stood as an authority. He early attained prominence after his graduation at the University of Berlin, being made professor of pathology at Würzburg at the age of 28. In 1856 he was made professor of pathology at the University of Berlin. His fame rests solely upon his scientific attainments, although his energies were by no means confined to medicine. Virchow was a politician of prominence. He was an ultra-liberal, and his extreme political views caused him to lose his rectorship of the Berlin University in

1887. In 1892 he was restored to this position. Virchow founded the German Anthropological Society, also the *Archives of Pathological Anatomy and Physiology and Clinical Medicine.* Last year he celebrated his eightieth birthday, and the occasion was made one of moment by medical men all over the civilized world, physicians from all nations vying with one another to do him honor.

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### New Ration for American Sailors.

The numerous complaints from enlisted men in the U. S. Navy have at last moved the authorities to make a change in rations which was fixed by law in 1861. The following has been adopted: "One pound and a quarter of salt or smoked meat, with 3 ounces of dried or 6 ounces of canned fruit, and 12 ounces of rice or 8 ounces of canned vegetables, or 4 ounces of desiccated vegetables; together with one pound of biscuit, 2 ounces of butter, 4 ounces of sugar, 2 ounces of coffee or cocoa, or ½ ounce of tea, and 1 ounce of condensed milk or evaporated cream, and a weekly allowance of ½ pound of macaroni, 4 ounces of cheese, 4 ounces of tomatoes, ½ pint of vinegar, ½ pint of pickles, ½ pint of molasses, 4 ounces of salt, ¼ ounce of pepper, and ½ ounce of dry mustard. Five pounds of lard or a suitable substitute will be allowed for every hundred pounds of flour issued as bread, and such quantities of yeast as may be necessary." With such a variety the "man behind the gun" will certainly have no further cause to complain.

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### Medicine Among the Aborigines.

That the science of medicine is not confined entirely to the civilized world is shown by Dr. Colquhoun in his presidential address to the New Zealand branch of the British Medical Association. Colquhoun enumerated some facts of primitive medicine collected by various observers among the aborigines of Australia and the South Seas generally. Thus wounds are treated by a thorough sucking, followed by the application of pridgerong, a kind of resin exuding from the bark of trees. Abscesses are poulticed and lanced. Cold-water baths and bleeding are practiced in fevers. Two cases of tetanus are recorded as having recovered, the treatment being the formation of a urethral fistula. The natives have a surprising knowledge of the vegetable materia medica, certain plants being known for their cathartic, astringent, or emetic qualities.

# ITEMS AND NOTES.

Dr. Nicholas Senn, of Chicago, expects to be in Chicago before the end of August.

The estate of the late Levi Cooper Lane, of San Francisco, has been appraised at $301,108.56.

An International Congress on the Care of the Insane was held in Antwerp from September 1 to 7.

A female physician, Dr. Rena Mastio, has been appointed to the professorship of anatomy at Milan.

A despatch from Simla says that the plague mortality is increasing at the rate of 1000 cases weekly.

The Buffalo Woman's Hospital received the sum of $13,500 from the late Dr. Thomas Lothrop, of that city.

Dr. Harold N. Moyer has been elected to the chair of neurology in the Chicago Eye, Ear, and Nose College.

A semi-centennial meeting of the American Pharmaceutical Association was held in Philadelphia September 8.

Prof. E. Porro, of Milan, whose name is familiar to all surgeans by his modification of the Cæsarian operation, died July 18.

The Society of American Authors will solicit subscriptions for the erection of a suitable monument to Dr. Thomas Dunn English.

The prize offered by the Leipsic Krankenkasse for an essay on the prevention of venereal diseases has been awarded to Dr. Max Silber.

Typhoid fever is at present more prevalent in Chicago than at any other time since the three years immediately preceding the World's Fair.

Dr. Howard A. Kelly, of Baltimore, has donated $10,000 toward an addition to the gynecological building at the Johns Hopkins University.

THE seventy-fourth annual meeting of the Congress of German Surgeons and Physicians will be held at Carlsbad from September 21 to 27, 1902.

DR. NESTER PONS DE LEON, a graduate of the Columbia University School of Medicine, has been appointed to the position of medical inspector for the port of Havana.

PLANS have been made for the reconstruction of the old Bellevue Medical College building in the Bellevue Hospital grounds on 26th and First Avenue, New York.

DR. SAMUEL PATTERSON STAFFORD, a negro physician of St. Louis, has been appointed the government physician at the Yakima Indian Agency in the State of Washington.

THE twenty-sixth annual meeting of the Dermatological Association was held in Boston September 18 under the Presidency of Dr. George F. Thomas Jackson, of New York.

EIGHTY-FIVE cases of trachoma were found among the steerage passengers of the French line steamship *La Gascogne* and the Red Star liner *Zeeland,* which arrived at the port of New York two weeks ago.

DR. GEORGE AUGUSTUS LUNG, Surgeon U. S. Navy, has been ordered to duty as surgeon to the President to succeed John F. Urie, who has been made assistant general of the Bureau of Medicine and Surgery.

THE seventieth annual meeting of the British Medical Association was held at Manchester July 29 to August 1. The President, Mr. Walter Whitehead, consulting surgeon to the Royal Infirmary, delivered a scholarly address.

THE August number of the *Journal of the Association of Military Surgeons of the United States* contains the first instalment of the Enno Sander prize essay on "The Most Practical Organization for the Medical Department in the U. S. Army in Active Service," by Lieutenant-Colonel Valery Harvard, U. S. A.

IT is announced that the Portuguese capital, Lisbon, is infested with rats of great size, against which cats seem powerless. The local authorities have inoculated a number of the rats with an infectious disease to which human beings are insusceptible. It is hoped in this manner to kill off a majority of the rats.

The American Association of Obstetricians and Gynecologists held its fifteenth annual meeting in the Convention Hall of the Hotel Raleigh, Washington, D. C., Tuesday, Wednesday and Thursday, September 16, 17, and 18, 1902, under the presidency of Dr. Edwin Ricketts, of Cincinnati. The preliminary programme contained the titles of forty-four papers.

Prof. Joseph Seegen proposes, according to *American Medicine,* to offer a prize under the auspices of the mathematical and natural science class of the Imperial Academy of Sciences, in Vienna, for the best answer to the following question: "Is any part of the nitrogen of the albuminates which have undergone metabolism in the animal body eliminated either by the lungs or by the skin in the gaseous form?" The value of the prize is 6000 kronen (about $1000). The essays may be written in German, French, or English, and must be sent in before February 1, 1904.

The annual meeting of the Belgium Society of Surgery is now being held (Sept. 8, 9, and 10) at Brussels. The sessions will be devoted to the discussion of three topics: (1) "The Treatment of Appendicitis," to be opened by Drs. A. Broca, Paris; A. Gallet, Brussels; C. Roux, Lausanne; and Sonnenburg, Berlin. (2) "The Treatment of Fractured Limbs," opened by Drs. A. Depage, Brussels; Rottschild, Frankfort, and Th. Tuffier, Paris. (3) "Asepsis of the Hands, of the Operated Area, of Sutures and Ligature Material," opened by Dr. Walravens, Brussels.

While the *Kaiser Wilhelm der Grosse* was making her way to the port of New York recently one of the passengers was taken ill with symptoms of appendicitis. An operation was indicated, but as land was so near it was deemed advisable to wait until the ship arrived. Accordingly, a wireless message was sent while the boat was still fifty miles away, and in response to the call an ambulance was in waiting when the pier was reached. The patient, a son of former Prime Minister di Rudini of Italy, was taken to hospital, operated upon, and is now convalescent.—*Medical Record.*

The French authorities have tried, says a contemporary, to abolish the use of white lead in painting, but find it is legally impossible at present. The decree issued, therefore, merely forbids the use of white lead in a dry powder. It must be kept in the form of a paste in all paint shops and must never be applied

by hand. All dry scraping and pumicing of painted surfaces are forbidden. When painters are scraping and pumicing, and in all work with white lead, special overalls must be provided and frequently washed, and appliances provided for the painters to clean up where they are at work. The tools, etc., must never be cleaned dry. These regulations are to be kept posted in the pay room.

The surgeons of the New Orleans Eye, Ear, Nose, and Throat Hospital have noted the great number of patients entering the institution from the country around New Orleans suffering from partial or total blindness. An investigation has disclosed the fact that a cheap antiseptic, containing a large amount of wood alcohol, has been used throughout Louisiana. The city chemist found as much as 30 per cent of methyl alcohol in some of these specimens, rendering them totally unfit for internal administration. As methyl alcohol, when taken internally, acts directly on the optic nerve, the majority of the persons affected will not fully recover their eyesight.—*Philadelphia Medical Journal.*

In the Pasteur Institute, Cracow, Austria, 647 patients were, according to the *Philadelphia Medical Journal,* admitted for treatment during 1901. Thirty-eight of these had been bitten in the face and head, 418 in the hands and body, and 191 in the legs. Out of 600 who received treatment, only two died (0.33 per cent). At the Pasteur Institute, Vladivostok, Russia, 200 persons were treated without a single death. Dr. Krokiewicz, of Cracow, reports a case of rabies in a young woman eight months pregnant, who died. Portions of the medulla of the fetus were inoculated into rabbits subdurally without producing rabies, thus showing the non-transmissibility of rabies through the placenta.

The success and value of its hospital at Allentown, Pa., leads the American Steel and Wire Company to plan the establishment of a hospital for the treatment of emergency cases on the grounds of each of its twenty-two plants. The buildings will be as nearly uniform as conditions will permit, and the total cost to the company of buildings and equipment will not fall short of $300,000. Each hospital will be of plain brick construction, two stories in height, with baths, sitting-rooms, library, dining-room, and sleeping apartments for the nurses, and will have quarters for six beds, that number being figured as the maximum of cases that may need attention at the same time.—*Journal of the American Medical Association.*

# NEW PUBLICATIONS.

## THE MEDICAL STUDENT'S MANUAL OF CHEMISTRY.

A very thorough revision has been made of this well known text-book, which is now in its fifth edition. The newest facts of the science of chemistry have been given a chapter by themselves. The book has been devised in such a manner as to be of great value to students of medicine. The appendix is devoted to the rules for the pronunciation and spelling of chemical terms which some time ago were adopted by the American Association for the Advancement of Science. This manual will continue to hold in the future as it has in the past its place as one of the standard text-books on the subject of chemistry.

The Medical Student's Manual of Chemistry. By R. A. Witthaus, A.M., M.D., Professor of Chemistry, Physics, and Toxicology in Cornell University, Medical College of New York City; Member of the Chemical Societies of Paris and Berlin; Member of the American Chemical Society; Fellow of the New York Academy of Medicine; of the American Association for the Advancement of Science; of the Medical Society of the State of New York, etc.

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## PEDIATRICS AND ORTHOPEDIC SURGERY.

The little volume entitled Pediatrics and Orthopedic Surgery, edited by W. S. Christopher and John Ridlon, should prove of incalculable value to the busy general practitioner. The editors have shown rare good judgment in the selection of those subjects which form a large share of the work of the general practitioner, and have treated them in clear and concise language. The work as a whole is replete with practical ideas, and the salient points of each subject are properly brought out and emphasized.

The Practical Medicine Series of Year-books. Volume VIII. Chicago, Ill.: The Year-book Publishers.

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## PHYSIOLOGY, PATHOLOGY, BACTERIOLOGY, AND ANATOMY.

The ninth number of the Practical Medicine Series of Year-books consists of a series of abstracts on the subjects of physiology, pathology, bacteriology, and anatomy, made from articles which have appeared in both home and foreign journals during the past year. In a very concise and interesting manual will be found all that is new in the progress of these different branches. The volume has been edited by W. A. Evans and Adolph Gehrman.

The Practical Medicine Series of Year-books. Volume IX. Chicago, Ill.: The Year-book Publishers.

# THE PROGRESS OF MEDICAL SCIENCE.

## SURGERY.

### Surgical Hints.

The following timely hints will be found in the September number of the *International Journal of Surgery:*

When a drain is left in the abdominal cavity it is usually well to insert silkworm-gut stitches in the walls, which are left untied and brought together after the drainage can be dispensed with.

If a limb is so injured as to require amputation, it is always best to wait until after the period of shock, but never delay so long that active sepsis may become established before the operation.

Thorough cleansing of the peritoneal cavity after any escape of intestinal or gastric contents is sufficiently problematical to make it advisable to always leave a drain, at least for the first few days.

After severe hemorrhage, burns, or lacerated wounds, the prompt use of moderate doses of morphine is of extreme value in diminishing pain and lessening shock. By quieting the restlessness and slowing the heart's action it is also apt to lessen hemorrhage.

When operating with rubber gloves there is often difficulty in drawing them on. They may be placed in a solution of lysol or creolin, which, being soapy emulsions, will so lubricate them as to permit them to go on readily. Another way is to dry the hands on a sterilized towel, after which they are powdered with sterilized starch, and may then be readily introduced.

In gunshot wounds, when a round ball, or a conical one with small velocity, penetrates a fascia, the fibers of the latter may be so disturbed and crowded aside as to interfere much with probing and with drainage. Thus a probe may impinge upon a fascia so that no further advance can be made, and errors as to the actual presence or the direction of the bullet may easily occur.

### The Surgery of Spina Bifida.

Knott (*Annals of Surgery,* May, 1902) publishes four cases of spina bifida successfully treated by excision. The oldest patient was aged six months, and the youngest four weeks. By

excision the author means removal of the excessive skin and meningeal membrane, the separation of the nerves, if present, from the wall of the sac, and their restoration to the spinal canal. No attempt was made in any of these cases to close the opening in the spinal column with bone, but the muscles lying on either side were loosened so that they could be drawn in to the median line and sutured over the gap with chromicized catgut. The author sums up the results of his experience and study of the surgical treatment of spina bifida in the following conclusions: (1) Owing to the distressing nature of the affliction, the high mortality should not prevent attempts at surgical relief; (2) meningoceles, meningomyeloceles, and syringomyeloceles may be considerably benefited by operation; (3) the improvement in function cannot with certainty be estimated before operation, and pronounced evidences of nervous disturbance are not a contraindication to excision; (4) asepsis is absolutely essential, and though difficult to secure may be maintained by exercising extreme care; (5) the plan of having the suture lines of the meninges and the overlying tissues on different planes will in the majority of instances prevent leakage of cerebrospinal fluid; (6) the suggestion of Pearson to prevent the escape of cerebrospinal fluid during a prolonged operation by stuffing the canal with gauze is valuable; (7) large bony defects may be more effectually and readily closed by muscle than by bone; (8) it is not necessary to keep the child off its back during the healing of the wound, as has been frequently advised; (9) children with hydrocephalus accompanying spina bifida should not be subjected to operation.

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### A Resume of Forty-eight Cases of Postoperative Crural Thrombosis.

B. R. Schenck (*New York Medical Journal,* September 6, 1902) gives a *résumé* of forty-eight cases of postoperative crural thrombosis. The writer says that thrombosis of the crural veins is more common after pelvic operations than is generally recognized.

It occurs more frequently in those cases in which large tumors springing from the pelvic organs have been removed.

It rarely follows extrapelvic operations.

In this series it has been infrequent after infected cases.

The anemia and cachexia in consequence of new growths seem to be factors in its causation.

Constipation and the use of enemata play a doubtful part in the etiology.

Traumatism at the time of the operation should be borne in mind and deep retractors used with extreme care.

Infection is undoubtedly of great importance, but its frequency is difficult to decide.

This complication often occurs when least expected, and usually late in convalescence. Albumin in the urine is more frequent in these cases than in those running an uninterrupted course.

The pulse curve of Singer does not always occur.

The results of rest and elevation for the full length of time are excellent. When the time is lessened, swelling and pain persist, and the danger of pulmonary embolus is increased.

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### Prevention and Cure of Insanity by Removal of Abnormal Pelvic Conditions.

E. Hall (*American Journal of Gynecology and Surgery,* August, 1902) claims that less than ten per cent of the female insane have normal pelvic organs. Hall says that in the hands of competent operators upwards of 20 per cent of the so-called chronic insane recover their mentality, and 15 per cent are improved, after the removal of the physical disease. This is a modest statement, since the statistics of Dr. Hobbs, and the author's own, show a higher rate of recovery—39 and 30 per cent respectively.

We find that, inasmuch as the pelvic organs are exceptionally exposed to traumatism and infection, they are frequently the seat of disease; and that mental abnormality is more frequently associated with pelvic disease than with diseases of any other locality outside the large nerve centers. If this be the case, we should ever be on the alert in all cases where there is marked alteration in the mental health of our patients; and while giving due consideration to the whole organism, to make a thorough investigation of the conditions of the pelvic contents; and in so doing we shall frequently be rewarded in finding in the pelvic disease the local irritations resulting in the abnormal psychic manifestations.

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### Cases of Prostatectomy, with Remarks on the Operation.

Nine cases of prostatectomy with one death are reported by P. Thorndike (*Boston Medical and Surgical Journal,* Aug. 28, 1902). From his study of these cases the author draws the following conclusions:

(1) Great relief can be given to all patients suffering from

symptoms due to obstructing enlargements of the prostate, either by palliative or by operative means. (2) The time to resort to operative measures is just as soon as palliative treatment, carefully executed by competent hands, has failed to give relief. (3) Complete prostatectomy is always the operation of choice, because it is the only operative procedure which cures or gives uniformly good results, when successfully performed in proper cases. (4) The best time for its performance is just as soon as palliative efforts have failed, or are manifestly impossible of execution, and before secondary changes in the bladder and kidneys, due to long-continued obstruction, have taken place. (5) In those cases which come for surgical relief so late in the development of the pathological conditions that the bladder and kidneys are extensively diseased, and the patient is manifestly exhausted by long-continued suffering, other less certain and perhaps less severe measures may be advised, instead of a complete prostatectomy, but such a decision can only be and must always be made by the surgeon for the individual case, and cannot be made the subject of a generalization.

## MEDICINE.

### Typhoid Fever.

E. Marx *(Bibliothek von Coler,* 1902, vol. xi, p. 51) says the typhoid bacillus usually makes its exit from the body in the feces, but in rare cases also in the sputum. The latter mode of excretion probably does not in general play a great rôle in effecting the spread of the disease; but just on account of its rarity it is likely to be overlooked, and hence, when it does occur, is a dangerous source of infection to surrounding individuals. Of the very greatest importance, however, being certainly the chief means by which contagion is transmitted, are the bacilli which are in numerous cases excreted with the urine. This fact was discovered by Hueppe and Seitz as long ago as 1886, and has been frequently confirmed; but its epidemiological importance was first realized only by Petruschky. The latter showed that in one case one cubic centimeter (¼ drachm) of urine contained more than 170 millions of typhoid bacilli; and he calculated that in that instance the daily excretion of the microörganisms amounted to 200 milliards of bacilli.

The most stringent disinfection of the stools, the sputum, and above all of the urine, is absolutely necessary in every case of typhoid fever. And since the investigations of Neufeld have

shown that in some cases the excretion of typhoid bacilli persists during convalescence and even for weeks after recovery, we are compelled to regard the urine as infectious in all cases until a careful bacteriological examination has demonstrated the absence of the microörganisms. The premature dismissal of a patient in whom the bacillary excretion has not ceased constitutes a grave danger, and may be the cause of a recrudescence of a typhoid epidemic.

Neufeld confirms Richardson's assertion that the employment of urotropin, 5 grammes (75 grains), in 150 grammes (5 ounces) of water, in tablespoonful doses three times a day for three weeks, renders the typhoid urine germ-free. And since Schumberg has shown that the urotropinized urine as such inhibits the development of the typhoid germ, the cessation of the bacteriuria can only be accepted as a fact when the bacilli are no longer found after the remedy has been discontinued for a considerable period of time.

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### The Relation Between Diphtheria and Ear Disease.

Stangenberg (*British Medical Journal,* Aug. 23, 1902) has examined from this point of view one thousand cases of diphtheria in which the diagnosis was confirmed by bacteriological examination. The patients consisted of 308 under five years, 298 under ten years, 133 under fifteen years, 126 under twenty years, and 135 over twenty years of age. Of these, 243 showed signs of aural complications; 109 cases (44 per cent) occurred in children under five years, and 79 (32 per cent) in those were over five and under nineteen years. Of the remainder, 24 (9 per cent) were under fifteen, 13 (5 per cent) under twenty, and 18 (7 per cent) over twenty. Otalgia was present in 16 cases. It was generally unilateral, accompanied the onset of the disease, and declined with the disappearance of the faucial lesions. Salpingitis of the Eustachian tube was present in 190 cases; in 60 per cent it appeared in the first week; in 7 per cent in the second week; in 1 per cent in the third week; and in 0.6 per cent after the third week. Exudative middle-ear disease was observed in 65 cases: in 14 cases (21 per cent) in the first week; in 22 cases (33 per cent) during the second week; and in 7 cases (12 per cent) in the third week. As to the route of infection, the readiest suggestion supposes an extension by the Eustachian tube, but in the larger proportion of cases the complication occurred after the first week.

From a careful study of the 243 cases Stangenberg concludes

that ear complications are not a necessary accompaniment of the severer cases of diphtheria, but that they often occur in slight cases at a late stage of the disease. The exact mode of infection is difficult to delineate. The aural troubles were all slight in character, and this was perhaps due to the fact that antitoxin serum was always injected immediately the patient arrived at the epidemic hospital. Stangenberg never observed a case of primary or secondary "otitis externa diphtherica" amongst the one thousand patients, but just after publication a solitary case was met with in his polyclinic.

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### Internal Hydrocephalus in Adults.

Parkes Weber (*British Medical Journal,* Aug. 2, 1902) states that internal hydrocephalus in adults may arise from the presence of tuberculous or suppurative meningitis, tumors, abscesses, traumatism, epidemic cerebrospinal meningitis, and ventricular ependymitis. A case studied in detail, and belonging to the last group, is reported, namely, that of a woman aged twenty-two, free from alcoholism or syphilis. She was liable to swoon when traveling on board ship. Stiffness of the neck developed, with occasional attacks of vomiting. There was a slight optic neuritis, gait hesitating, with short steps; knee-jerks normal. She died after a violent attack of headache, vomiting, and general convulsions. The necropsy showed distention of all the ventricles of the brain with fluid under considerable tension. There was no thrombosis of vessels. No meningitis was discovered, but the ependyma was abnormally thickened, especially in the fourth ventricle, where it was infiltrated with round cells, especially around the blood-vessels in the subependymal tissue. The condition was less marked in the other ventricles, and might be designated ependymitis of the fourth ventricle. The changes seemed to be similar to those described by Burr and Macarthy as produced experimentally by the injection of irritating substances into the cerebral ventricles of cats. The inflammatory changes may affect only limited areas of ependyma or pia mater, yet sufficiently to produce hydrocephalus from obstruction of the iter or of the foramen of Majendie. The chief symptoms of internal hydrocephalus in adults are headache, stiffness in the neck, sudden, violent attacks of vomiting, double optic neuritis, weakness, and a hesitating gait. Treatment consists of rest in bed and avoidance of muscular overwork, and abstention from alcohol. Lumbar puncture has been found useful in some cases (Quincke), while mercury (inunction) and iodides will give relief both in syphilitic and non-syphilitic cases.

### Diet, Drugs, and Diagnosis in Typhoid Fever.

C. H. Lewis (*Medical Record,* Aug. 2, 1902) says that in hospital practice, as soon as a tentative diagnosis is made and without regard to the stage of the disease, five or ten grains of calomel with double the amount of bicarbonate of sodium is given, and the appearance of the stools and condition of the abdomen following this prescription determine a repetition of the dose, or the amount of calomel to be started as a routine measure.

Stimulants and sedatives are employed to meet presenting symptoms, not prospective ones, and are never given routinely, or without direct indication. Salol, beta-naphthol, bismuth, salicylates, carbolic acid, and all these so-called intestinal antiseptics have not appealed to the author on practical or theoretical ground. In doses employed they do not antisepticize the bowel, and if they did, it would not stay the disease. The typhoid bacilli in great numbers have long before migrated from the bowel, and are lodged, proliferating, and manufacturing their toxins in the intestinal coats, mesenteric glands, spleen, and many, perhaps all, of the other organs of the body. They have been found in the blood, urine, saliva, and perspiration. To the infection is added an intoxication, and the local lesions in the intestinal mucous membrane—the parts accessible to the alleged antiseptics —only mark the damaged portals of entry for the germ causes of a constitutional affection.

In summing up his observations the writer draws the following conclusions: (1) In typhoid fever, approximate the diet to a pint of milk, diluted with an equal amount of Vichy, daily. (2) Approximate the therapeusis to half a grain of calomel twice a day. (3) Give free and frequent draughts of acidulated or pure water. This is the theme. We can write our own variations.

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### On the Influence of Chronic Alcoholism on the Development of the Organism and the Brain.

Livanoff (*Russki Archiv Patologii Kilinitcheskoi Mediciny i Bakteriologii,* vol. 13, No. 2), who had recently made a number of experiments on the lower animals with the view of determining the effect of chronic alcohol poisoning on the development of the organism, has as the result of his work arrived at the following conclusions: (1) The development of the organism and the brain is inhibited in chronic alcoholism. (2) Alcoholism in the young acts more deleteriously on the development of the organ-

ism. (3) The development of the weight is diminished from 35 to 60 per cent, the diminution being greater in those which received the alcohol earlier. (4) The internal organs are diminished both in weight and size from 26 to 35 per cent. (5) The spleen is increased 30 per cent both in size and weight. (6) The growth of the bones in length is decreased. (7) The development of the bones in thickness is decreased 18 per cent, the effect being most marked in early alcoholism. (8) The total mass of the brain is diminished from 10 to 20 per cent, the effect being more marked in early alcoholism. (9) The size of the brain is decreased in all directions from 8 to 20 per cent, the anteroposterior diameter suffering most. (10) In young animals, 2 cubic centimeters of 95 per cent alcohol per kilo weight is sufficient to induce chronic alcoholism. (11) Chronic alcoholism produces atrophic changes in the coverings of the body and the muscular system. (12) The diminution of the weight from 30 to 60 per cent is due largely to the atrophy.

## THERAPEUTICS.

### Treatment of Summer Diarrhea.

A short summary of the practical treatment of diarrhea is given editorially in the issue of *Pediatrics* of July 15.

Treatment may be summarized in three words: (1) diet, (2) quiet, (3) medicine—and the arrangement of these items is perhaps anticlimactic, as diet is the most vital item in the list. Regarding diet it is best to give to a fairly strong baby with ordinary summer diarrhea (slight fever with eight or ten greenish foul stools per day) only boiled water for twenty-four to thirty-six hours, till the passages have improved. When the parents need "doctoring" as well as the children, the baby may receive boiled barley water (carefully strained, sweetened and salted) or rice water. Oatmeal water is less desirable from its recognized tendency to relax the intestinal muscle. Should the child remain unimproved for a longer period than thirty-six hours, of course nutriment must be given, but even then it should be only albumen water (with a drop or two of lemon juice) and barley water. Sufficiently supplied this diet will run the case quite well for several weeks, till milk (meaning by this the best grade of bacteria-free milk) may be gradually introduced.

Next is quiet and fresh air. Babies suffer as much in diarrhea when tumbled about by their nurses as adult patients suffer when walking around. They should lie peacefully on the couch or

in the cradle and make none except necessary movements. Playing about the floor should not be permitted. Fresh air is essential, however gotten. Suburban trolley cars could be utilized by the city dwellers more than they are on fine days. If the weather be rainy or temporarily chilly a steamboat trip is not desirable. The patient may cure his diarrhea, but get bronchitis instead. Cool bathing is useful, and light, cool clothing very important.

Thirdly, regarding more specific medicinal measures, *primum non nocere*. Mild cases need no medicine. More severe cases need only a primary purge of castor oil, which is far better than triturate tablets of calomel, as it has a secondary "binding" influence, an influence which most observant mothers have found out for themselves. Severe cases may profit by bowel irrigations. The profession is now veering back to the ground of a dozen years ago and beginning to say that bowel irrigations have been much overdone and are rarely required. The truth as usual lies between the extremes. Bismuth with pepsin and sodium bicarbonate, or bismuth with castor oil (5 minims of castor oil to 20 grains of bismuth repeated, p. r. n.), may be finally required to complete the cure. Opium should be avoided except in the severest choleroid cases, when the pain may be excessive without it.

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### Tuberculin in Abdominal Tuberculosis.

Denys (*Presse Médicale Belge,* July 6, 1902) recounts his experience with the filtered, unheated bouillon of the tubercle bacillus in twelve cases of abdominal tuberculosis. In two the treatment was not complete at the time of writing; of the other ten the full histories are given. One of these died of an intercurrent attack of lobar pneumonia, not associated, according to the author, with the tuberculosis; he believed that but for this, as it were accidental, complication the patient would have recovered. Of the nine remaining cases eight are stated to have been completely cured, while the ninth would have been so but for a severe anemia resulting from climacteric menorrhagia. Of these nine patients seven had tuberculous peritonitis with ascites, and of them six had fever as well. This symptom entirely disappeared in a time varying from a few days to five months, according to its severity. In two cases another factor was introduced, laparotomy in one, tapping in the other, but the author considers the cures to be due to the tuberculin and to these other measures. Some of the patients seem to have been suffering from tuberculous

peritonitis for as long as ten or eleven years. Denys regards the curative action of this bouillon as incontestable, and that the fever is no contraindication to its use.

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### The Use of Hot Air in Nephritis.

C. E. Skinner (*Journal of Advanced Therapeutics,* September, 1902) advocates the use of dry hot air in this disease. The writer claims the following advantages:

First, rapid relief of the dropsy, respiratory and cardiac embarrassment, frequently for hours.

Secondly, the accomplishment of this result without the aid of, and more efficiently than is possible with, drugs; hence avoidance of the deleterious after-effects not infrequently dependent upon the use of the latter.

Thirdly, the marked lessening of the general toxemia and of the quantity of albumin in the urine, together with the increase in the quantity of urea excreted, affords ground for the belief that a certain amount of correction of the family metabolism which it is probable constitutes the main etiological factor in the production of the clinical phenomena of the disease is also effected by body hot-air treatments. For a decisive verdict upon this point, however, it will be necessary to wait a little longer, and observe whether or not, and how, exacerbations after treatment enter the problem in the future.

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### Rheumatism.

According to Dr. Desplats (*Medical Press,* Aug. 27, 1902) the juice of lemons is an excellent remedy for rheumatism, acute or chronic. He considerably relieved an old woman who suffered much from chronic rheumatism, and was almost a cripple from the malady. A similar success attended its administration for acute rheumatism in a young girl, while in three days he cured himself from erratic rheumatic pains. He advises two lemons daily to begin with, and increase gradually until the desired effect is obtained. He tried to substitute for the juice citric acid, but he found that the patients could not tolerate a sufficient amount of this acid. Dr. Vigues has the same high opinion of the efficacy of the juice of lemon, not only in rheumatism, but in gout. Although it does not cure a malady which is in itself incurable, it relieves the pain, and that is a great point. On the other hand, it in no way disturbs the digestive functions, nor does it produce anemia.

## OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,
Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

### Foreign Bodies in the Eye.

William M. Sweet (*Journal of the American Medical Association,* Aug. 30, 1902) says that the size of a splinter of iron or steel and its approximate position in the eyeball should be known before an attempt is made to extract it by either the medium-sized or the giant magnet.

The *x*-rays are the most certain method of diagnosis in injuries from all kinds of foreign bodies.

The large and medium-sized magnets are of value in determining the presence of iron or steel, but negative findings cannot be accepted as conclusive evidence of the absence of the metal in the eyeball.

The Haab magnet is superior to all forms of smaller magnets in extracting iron or steel from the vitreous chamber by way of the anterior chamber, but the great power of the instrument requires that it shall be used with caution.

When the body is to be extracted through an opening in the sclera close to the previously determined position of the metal, the medium-sized magnets are shown by experiments to be as effective as the giant magnet. The entrance of the magnet point into the vitreous is harmful, and should never be attempted except when other means of extraction have failed.

## DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Lecturer on Dermatology, Detroit College of Medicine.

### On Tylosis Palmarum in the Adult Independent of Pressure.

Shultz (*Archiv f. Dermat. u. Syph.*, January, 1902) reviews the various forms of hyperkeratosis of the palms, which are independent of pressure. These he divides into congenital, hereditary, and acquired affections, mentioning, among others, keratodermia symmetrica congenitalis (Audry), keratoma palmare et plantare hereditarium (Crocker, Unna, and Neumann), keratodermia symmetrica erythematosa (Brooke, Besnier), arsenical hyper-

keratosis, and the hyperkeratosis of the palms which occurs in association psoriasis, eczema, and a number of other chronic dermatoses. He then describes a type of hyperkeratosis palmarum which occurs in healthy individuals in middle life or old age, and which is independent of chemical irritants or mechanical pressure. It begins usually in the center of the palm, about the thenar eminence, and between the thumb and forefinger in the situation where the pen lies in writing. In its earliest stage it resembles a dry scaly eczema. "The skin is hyperemic, absolutely dry, and covered with fine scales." Itching is present at first, but it is slight. Neither papules nor vesicles can be detected. The writer considers that the condition is not a form of dry eczema nor a phase of eczema seborrhœicum. Gradually the skin becomes more and more thickened and horny, rhagades begin to form, which are frequently intensely painful, and finally the skin assumes an irregularly heaped-up appearance broken up into small horny foci.

With regard to the etiology, the writer cannot leave out of court a possible connection of the hyperkeratosis palmæ with a disturbance in the sweat excretion. The quantity of sweat was reduced and its quality altered in the disease, and if a spontaneous improvement occurred the output of sweat became normal. The treatment employed consisted of salicylic-soap plasters, bathing the hands in weak alkaline solutions (one to two teaspoonfuls of caustic potash to a basin of hot water), and an ointment containing thioform 3 parts, hydrarg. ox. rub. 1 part, lanolin 30 parts, and ol. ricinum 3 parts.

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## A Contribution to the Study of the Change of Hair in Man.

Veneziani (*Giorn. Ital. delle Mal. Ven. e della Pelle,* 1902) discusses the opinions of previous writers on the method by which change of hair is effected, and as the result of his own experiments formulates the following conclusions:

The process may be divided into two distinct periods, that of atrophy and that of regeneration. In the former the first stage consists in the atrophy of the papilla and the matrix; the shaft of the hair undergoes cornification right up to its extremity. In the second stage the papilla continues to atrophy, while the matrix gives rise to a column of cells which grow upward and push the base of the hair up to the level of the arrector pili muscle. Dilatation of the connective-tissue sheaths takes place around this "appendage" of newly formed cells. In the third stage the papilla

is completely destroyed and the appendage also disappears, so that the follicle ends in a hemispherical cup below the base of the hair-shaft. The second period—that of regeneration—now begins. In its first stage there grows out from the external sheath and from the few cells remaining of the matrix a mass of epithelial cells which embrace a new papilla formed by the derma. This mass grows gradually downward into the derma, pushing the papilla before it and forming a new "appendage" closely resembling the previous one. In the second stage of this period the cells of the newly formed "appendage," which are in contact with the papilla, form a secondary matrix; and from this by rapid karyokinesis there develops a pyriform mass of cells. The lower layers of these develop into a wedge-shaped formation of cornifying cells, which become the new hair-shaft; the upper layers, penetrated by this wedge, give origin to a new internal root sheath. In the final stage the new shaft is differentiated into an axial cylinder and a cortical envelope; it undergoes cornification and pigmentation. It grows until it touches the base of the old hair and pushes the latter from the follicle, if it has not been already removed by accidental means.

## GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,
Adjunct Professor of Obstetrics and Professor of Clinical Gynecology.
Detroit College of Medicine.

### The Formation of the Portio and Course of the Muscular Fibers of the Fornico-cervical Segment.

Marocco (*Centralb. f. Gyn.*, 1902, No. 19), on the basis of personal researches, concludes:

1. The portio vaginalis is the result of an invagination of the genital canal taking place after the coalition of Müller's ducts, which happens soon after the splitting off of the ureters.

2. The internal muscular layers of tissue are included in this invagination.

3. The distribution of the circulation in this invagination is peculiarly well adapted to prepare the part the portio has to play in the subsequent development.

4. The muscular tissues of this part must not be regarded as elements of the uterus or vagina, but be recognized as a segment of muscular tissue provided with independent innervation.

5. A special designation for the cervico-fornical segment from

the internal orifice to the summit of the vaginal vault is justified not only anatomically but in respect of its subsequent function.

6. Recognition of this segment's independence is the key to the explanation of the clinical conditions before and after conception.

7. Changes in the cervico-fornical segment lead to various affections of the uterus, and especially to chronic metritis.

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### The Menopause.

Kleinwaechter (*Zeitschrift f. Geb. u. Gyn.*, Bd. xlvii, Heft 1) discusses the menopause on the basis of 373 personal observations, of which 130 (34.85 per cent) were premature, 202 (54.15 per cent) between forty-five and fifty years of age, and 41 (10.77 per cent) were delayed. The causes of the premature cessation of the catamenia were: Severe hemorrhage in labor, premature or at term; protracted lactation; puerperal fever; hereditary disposition; hyperinvolution of the uterus after childbirth; infantile uteri; operative intervention such as manual detachment of the placenta and curettage of the uterus apart from childbed; and chronic disease, such as gastric and intestinal catarrh, valvular insufficiency of the heart, and diabetes mellitus and insipidus.

As conditions that may supervene on the menopause he describes: Endometritis, a particular form of which he instances as "E. senilis;" chronic metritis; metrorrhagia without apparent cause in the genital organs, but which he attributes to an arteriosclerosis of the uterine vessels; prolapse of the uterus and vagina; kraurosis vulvæ; vaginismus and carcinoma, in regard to which he found that Jewesses suffered less frequently from carcinoma than Christian women. A valuable list of the literature of the menopause is appended.

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### The Significance of Albuminuria in Pregnancy.

Morse (*American Journal of Obstetrics*, April, 1902) does not attach great importance to the presence of albumin in the urine during pregnancy. Albuminuria has a "will-o'-the-wisp" character in these cases. It may be absent in the worst cases of toxemia, and it may be present without any other symptoms. If, however, the normal amount of urea is decreased and continues for any length of time, signs of toxemia are not wanting. The toxemia is due to faulty excretion of urea. The urine during pregnancy should therefore be regularly examined, and a quantitative estimation of the urea made.

# THE MEDICAL AGE

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## ORIGINAL CONTRIBUTIONS.

### PROGRESS OF DISEASES OF THE NOSE.*

BY B. A. WADDINGTON, M.D., SALEM, NEW JERSEY.

*Atrophic Rhinitis.*—The origin of the atrophic form of rhinitis is without question of remote specific diathesis. The family history when carefully looked into gives frequent examples of this state, varying in its gravity as to the case. Other lesions can at times be discovered that settle the cause, as, for instance, Hutchinson's teeth. Occupation is also a factor, such as that class of labor that brings the person into contact with fine dust of any kind. The inhalation sets up an irritation of the mucous membrane and consequent change, yet it is fair to suppose that a specific soil is required. The discharge arises from any bony cavity opening into the nose. The discharge and consequent drying of the secretion varies as to the extent of the parts affected. The odor is not in proportion to the discharge. The retained dry secretions are at last discharged by frequent blowing of the nose and the formation of secretions beneath. It follows that in a good percentage of cases obstinate laryngeal cough exists, alarming both the patient and friends. The odor varies in proportion to the amount of bone involvement. The destruction of bone and soft tissues is governed entirely by treatment.

There is no form of nasal ailment that has responded more to modern treatment than the atrophic. The treatment is but rational—the removal of all offending substances, done with gentleness and the stimulation of the parts. The old insufflation of nitrate of silver has deservedly fallen into disuse. The use of cotton pledgets gave little result with considerable annoyance. Experience has proven that the use of ichthyol in its purity, well applied, has placed the treatment of this distressing affec-

*Read at the 136th annual meeting of the New Jersey State Medical Society.

tion within the bounds of a possibility. It is a stimulating alterative, toning the parts and changing their functional character. The odor and discharge disappear with marked rapidity. Of course, it is understood that this is not a cure. It is possible that occasionally a cure may be effected, but it is only modified in character. Boroglycerin diluted one-half, sprayed in the nostrils, comforts and keeps the parts moist and clean. Constitutional treatment has no value, the rule being that these patients are in good health.

*Hypertrophic Rhinitis.*—Woakes believes these growths are the result of a fibroid diathesis. One-third per cent of all people will develop fibrous growths on irritation. The middle turbinated bone is the one most commonly affected, giving rise to interference with ethmoidal cells, and accessory sinus secretions are interfered with in their normal exit. It gives rise to pain by pressure on the nerve terminals, and as a result increase of the hypertrophic congestion. Little can be added to the discussion of the subject either in its cause or its treatment. The superior turbinated bone being virtually out of observation leaves much doubt what part it plays as a cause. It has been suggested that obstinate frontal headaches recurring may be due to congestion of this bone and its soft tissue.

The treatment of these cases is purely surgical, sufficient soft and hard tissue being removed to give as much room as possible. The cold snare is generally given the preference in the treatment of the soft form, the thermopuncture if the cautery is passed close to the bone, by the formation of cicatricial tissue binding the soft tissue down to the periosteum, preventing the increase of new tissue by pressure. The results by this method have been very good, repeated punctures being made according to size of the growth. The treatment of this variety of nasal affection is not perfect. The soft form will return, and the bony form is very apt to.

*Deviated Septum.*—Deviated septum is the result of traumatisms in early life. Repeated injuries to the nose by falls in babyhood, and blows at a later period in life, set up inflammatory change and increase in the parts. Overdevelopment takes place, and the cartilage is pushed in the lateral direction. It is most common in the white, or races whose noses are most prominent. It is less common in the negro; his nose is flat and the bones stronger, being thus less liable to injury. A number of operations have been suggested. Roberts advises separation of the cartilage from the floor of the nose, and then cutting off the cartilage in a number of places. The cartilage is straightened

by force, and a steel pin introduced from the skin surface of the nose to the opposite side of the nares, and then down into the bone, thus holding the cartilage in its new position. Gleason has devised a method of buttonholing the bent cartilage. He passes a saw from below upward through the maximum of the curve and makes a U-shaped incision. He then, with the fingers, forces the excess of tissue through the incision, the denuded end protruding into the opposite nares. It is quickly done, being unique in its results. These two methods seem to give the best results; still the deviation returns more or less after a time. Mechanical supports to retain the parts during recovery and afterward have no value, being irritating and disagreeable. Insufflation of stimulating and soothing powders is useless, the discharge carrying them away before any action can occur. The use of formol solutions for atomizing have no curative value, only modifying the condition and washing out retained secretions. It is a question whether they do not do as much harm as good. Medicated vapors, hot and cold, can be classed under the head of fads. The use of the Politzer bag to empty out the ethmoidal cells has been very effective. The assertion has been made that the antrums can be emptied in the same way. I think this is not possible.

*Polyps.*—Nasal polyps belong to the same class as the adenoids, analogous as to tissue. There is nothing new in reference to their character and growth. The tendency of either variety is to return. The removal of one or more gives room for the development of immature ones by the relief of pressure. The treatment is purely surgical, either by twisting or the snare. Adenoids are confined to children. Their growth is always systemic, a localized tissue metamorphosis. They are removed by the finger-nail, the finger, the curette, or spoon forceps.

*Nasal Hemorrhages.*—Suprarenal gland has made a great change in the treatment of nasal hemorrhages. The results are immediate, giving rise to no irritation or deleterious after-effects. It can be used by insufflation, which is not so satisfactory as the aqueous mixture, the latter being made extemporaneously and applied to the bleeding parts. As the bleeding of the idiopathic form of hemorrhage is from the septum, the application can be made by pressure or with a brush. The result is prompt. Adrenalin—the active principle of the gland—is undoubtedly more effective and stable. The gland remains without change if kept dry. Watery mixtures are useless, and they are dangerous after standing a few hours. It does not interfere with the union or formation of tissue. If the gland or its active principle is

not convenient, vaselin may be used freely, filling the nose as full as possible, repeating until the bleeding abates. There is no question of its efficacy. The suggestion made by Professor Agnew to use fat pork plugs was no doubt based on the same reason. Sponges cut to the proper shape and saturated with the vaselin, and carried directly back to the posterior nares, is an excellent measure in obstinate cases. This has been found quite satisfactory in the vicious bleeding following diphtheria. As the sponge detaches itself and forces its way out the protruding part is removed with scissors. Forcible removal would probably renew the bleeding.

I have not written upon the pathological conditions mentioned in this little brochure as a specialist or expert, but from the standpoint of a general practitioner of medicine, not having time to devote to special work.

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## IS THE MEDICAL FRATERNITY GUILTY OF PROFESSIONAL NEGLECT OF ITS VACCINATED PATIENTS?

BY L. T. SCHURRER, M.D., LEXINGTON, MICH.

In consideration of the present rapid and alarming spread of variola and the consequent necessity of vaccination for the purpose of conferring immunity against the disease, the author of the subject under the above caption feels that he is offering the profession a timely and justifiable article for the reasons: that very little journalistic literature is put before them on the subject; that though most physicians are conscientious and painstaking, many can be accused of carelessness and neglect bordering on the criminal: and that if greater pains were taken in the management of our vaccinia cases so as to bring about a result more satisfactory in the eyes of the laity, health boards and sanitary officers would rarely meet with the prejudices and stubborn resistance which now exist against vaccination, most markedly in some and to a great extent in all places. Physicians need to have their attention called to this matter, to protect their own professional interests, and the laity deserve to be protected from what may be considered gross professional carelessness, and abuse of one of their most sacred and private rights.

The author's observations on the history of twenty years of the public and private practice of physicians he has known, to the present time, teaches him that over fifty per cent of their vaccinia cases do not invariably reflect credit on their skill. Other physicians are required to repair the damage done by their care-

lessness. On almost every hand one can hear complaints of how "this or that doctor poisoned them;" "Was awfully sick;" "My arm was as large as a telegraph post," etc. The number and condition of these cases which the writer has had under his care and observation from the practice of others have convinced him that they were justified in making these remarks. Cases have presented themselves for treatment in all stages, from severe acute septic inflammations to chronic ill-conditioned ulcers in which the integument and underlying adipose tissue and other structures down to the raw muscular substance, involving an extent of half the circumference of the arm, or two to three inches in diameter, have entirely sloughed away.

Many times we meet with physicians who take pride in seeing a hot and tumefied arm, an ugly vaccine sore, and a very sick patient, following as a result of their operation. In their daily intercourse with one another it is a commonplace thing to see a layman hold up a dangerously sore arm for inspection, remarking with apparent satisfaction, "How well it has taken." They seem to have imbibed the impression from the medical fraternity that unless such a serious condition existed it "had not taken well," and that the degree of severity bore a direct ratio to the amount of immunity conferred. Such a fallacy stands as a crying shame and reflection upon the science of medicine, and more particularly upon its practitioners.

In every case where the constitutional symptoms and the local lesion take on such a severe form after vaccination as to seriously affect the patient, there is either a mixed infection, or there exists an irritability of the integument which results in such a disturbance of equilibrium in the local nervous and circulatory structures as to produce an inflammation with which nature alone seems almost unable to cope. There is absolutely no necessity for such a result. After vaccination, in from three to seven days, as a rule—sometimes longer, owing to varying conditions and susceptibility of the patient—the symptoms of vaccinia make themselves manifest. This should be sufficient, and the course of the local lesion should be at once arrested. The amount of antitoxin now in the general circulation, together with that which will be absorbed before the local process can be controlled, has surcharged the system with all the antitoxic virtue necessary to confer the required immunity.

It is our duty, as soon as we have inoculated the patients with the virus, to instruct them in the initial symptoms of vaccinia, and have them, as soon as these have fairly well established themselves, report at once at the office, or at the time give instruc-

tion for proper treatment. This should consist of a half-hour fomentation of saturated boric acid solution applied as hot as can be borne, and followed by an application of ten-per-cent carbolized vaselin, which is best applied by spreading on a piece of sterilized gauze or cotton cut the size of the local lesion, overlapping it one inch, and kept in place by a light roller bandage. This is usually all that is necessary in ordinary cases, and the treatment may be repeated as often as the sore becomes uncomfortable; probably twice daily, the hot fomentations being suspended later, as soon as the local redness and heat shows signs of abating.

Should we meet a case that shows great heat, redness, tumefaction, involvement of the lymphatics, and extension of the inflammatory process, with great systemic disturbance, we can rest assured that we have not only to deal with vaccinia, but a mixed infection throwing more serious toxic products into the blood. This calls for more energetic measures, though very little if any internal treatment is necessary, unless it be to regulate the bowels or to quiet the nerves and produce sleep; the relief afforded by the local treatment usually affecting the latter. Treatment of the local lesion in such severe cases consists in first rupturing all blebs, pustules, and soft epithelium covering the suppurating surface, with a scalpel or other instrument; any hard central incrustation such as usually occurs should not be molested lest bleeding take place. After this it should be cleanly washed with soap and hot bichloride solution 1:2000. Wash away all soap, dry with clean towel, and apply a pledget of absorbent cotton sufficiently large to cover the lesion nicely, saturated with 1:1000 bichloride. Leave this in place for half an hour, changing only to keep the solution in contact with the suppurating surface up to that standard of strength. Over this apply woolen flannel cloths wrung out of a saturated solution of boric acid, or 1:500 carbolic, used as hot as can be borne—the greater the heat the greater the efficiency of the treatment. These hot fomentations may be kept up for thirty minutes to one hour, and repeated every four hours till the heat and swelling and general symptoms abate, when they may be dispensed with. Each time after the session of hot fomentations, carefully remove the bichloride saturated absorbent cotton, and, avoiding contact with any infectious material, dust the surface of the ulcer heavily with a mixture of equal parts of iodoform and boric acid, laying smoothly over this a small piece of sterilized gauze or ordinary cotton spread with carbolized vaselin. A small pad of absorbent cotton and a light roller bandage now complete the dressing.

The fomentations may soon be dispensed with, as swelling recedes, after which the latter part of the treatment should be continued twice daily till healing is fairly completed.

The object of this article is not to go into an elaborate and exhaustive treatise on vaccinia, wihch would require much time and space, and cover much ground with which every up-to-date physician is quite familiar. On the contrary, it was the aim of the writer to awaken an interest in an important feature of a very up-to-date topic; to ask for a correction of an apparent oversight, on the part of the profession, of which the number of cases daily offering themselves for treatment furnish abundant proof; and to offer a few suggestions which have proven themselves most highly satisfactory.

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## THE PHYSIOLOGY OF FEELING.

BY HERMAN GASSER, M.D., PLATTEVILLE, WIS.

Each one of us at the present moment is in a diffuse and active state of conscious feeling. This feeling is of a continuous and basic existence. Everything we see and hear and react upon about us somehow passes through this feeling in their transit to special states of conscious feeling, and thus gives them a continuous variation. For the purpose of illustration we might compare this general feeling to a lake, into or through which flow the countless thousands of sensations carried to it by the sensory nerves, causing them to rise as little ripples, rapid currents, and even tempestuous waves, upon its bosom for a moment with their special states of conscious feeling, gradually becoming assimilated in it and sinking into the general and organized state of established feeling.

The variable and ever-changing sensations of the body as well as of the world without are continually being transmitted by the sensory nerves into this general body of feeling with their special local reactions or attentions in it; always endeavoring to assimilate them into its organized unity, to attain equilibrium, enduring harmony, but never quite reaching it. It is in a continuous flux, a constant transition, the basis of which is *feeling with its variations.* This is why our feeling as well as our life is forever swinging between the constructive and destructive forces, ever striving for equilibrium but never attaining it, and thereby causing an organic classification of them in the organized unity of feeling.

On a perfect day in June, when the air is balmy, the body

replete, and all nature at rest, we are in a delightful state of equilibrated feeling that reminds us of paradise. Many think that if we could carry this idea into a still greater perfection we would be transported into heaven with its complete equilibrium, wherein this blissful monotony is never disturbed by a sensation or an emotion. But in the individual, as in nature, too much equilibrium is as much to be deplored as the acute and destructive disturbance of it.

Creation is a continuous and constructive process that stimulates us on in our daily work. In this never-ending conflict or reaction, our actions and thoughts are perfected into a wider and more complex form of feeling. The new experiences by this constant repetition after a time lose their freshness; they become so well organized and established in the body of our general experiences that they become almost instinctive, but in the meantime lay the foundation to receive other new experiences, to delve into the inquiry of still other related and unsolved problems, and so on *ad infinitum*. In this way we build the system of feeling into an ever increasing unity, and is why it is, and always must remain, an unstable equilibrium.

But what is more, we observe that this is not only a distinctive attribute peculiar to feeling, but pervades all nature in general. The nebulous energy of Laplace diffused in infinite space is in the same unstable equilibrium and unrest, the very inherent force of which, through its reaction upon the universe of phenomena in which it exists and is a part, builds our stars, and these stars their special systems, of which the sun and one of her children, our earth, are examples. While we have learned that our earth is a complex development, yet on every hand we find that it is continually undergoing change—is in unstable equilibrium, unrest. Even the moon, the dead, fossil, and skeleton child of the earth, is in unstable equilibrium, is continually undergoing change. The dead and the living matter and energy are alike in the same unstable equilibrium; it is only a difference of degree of activity. Nature is never at rest. If this was not so there would be no creative development, no evolution; without it we would have death indeed.

The strife of the simple atom of the physicist and chemist, of the Milky Way, the starry systems in the firmament with their stupendous energy that run their giant courses, of the earth with all therein, including man, is to attain equilibrium; is the same continuous dance, with only varying degrees of rapidity and complexity, as a result of these constructive processes. This is why we have come to the belief in a unity of nature with its

unerring law, and of which the unity of feeling with all its variations, governed and controlled by the same unerring law, is the only measure. Everything in the world without and the world within "is at once physical and psychical," related parts of the same unity.

In every department of study, from astronomy through geology, chemistry, physics, anatomy, physiology, and psychology, we find the same unerring, systematic, lawful, and orderly forces at work, binding them into a general, related, and connected unity without a broken link in the physical chain. While it is true we have "missing links" in this unbroken and constructive unity of nature, nevertheless the evidence we have justifies our belief in it with all the assurance of any fact whatsoever, for we observe the same "iron law" in them. These "missing links" are only incomplete elucidations of their phenomena. Nature is so complex that it is difficult at times to trace her manifold windings. This is especially true of our knowledge of the anatomy, physiology, and psychology of the brain and nervous system, and compared with it, the "missing link" between the monkey and man is only an inconsequential and indifferent factor. The elucidation of the former interprets the latter.

Professor Barker, in his valuable and instructive book, The Nervous System, says: "The astronomer, supplied with certain data concerning the speed and direction of a given planet controlled in its motion by the attraction of definite forces, can predict with precision the position it will occupy at a given moment in the future. The botanist, informed of the species to which a given vegetable organism belongs, can foretell with tolerable accuracy what its behavior will be under given conditions of soil and climate. Were it permissible to introduce here an opinion, I should not hesitate to say that I am convinced that the laws underlying nervous metabolism are just as fixed and constant as are those of astronomy and botany, and that I can conceive of a knowledge of their nature and action which would enable one possessed of it to prophesy unerringly of the functional manifestations of a nervous system made up of a given set of neurones which must result upon exposure to a given environment. That the neurologist is almost infinitely distant from any approximation to such astronomical accuracy with regard to the nervous system it is needless to remark. That he may never attain to such omniscience is altogether probable. But the fact that he has already learned that in the nervous system certain causes are followed by certain definite effects almost with mathematical accuracy should encourage and stimulate him to further research,

with the hope that the intricate laws in question may gradually be rendered less obscure and vague." (Page 221.)

In the *Medical Standard* for December I endeavored to show that the circulation in the nervous system gives us this "astronomic knowledge" whereby we can and do "foretell with tolerable accuracy" what any given idea, emotion, or volition will be "upon exposure to a given environment." Indeed, we have always known it, and it is so well established in our experience that we bank upon it. It is the basis of our social and political fabric, an organized system of facts; but of what the law of their psychophysics consists is the unsolved problem that the circulation in the nervous system resolves with "astronomic accuracy," and for the first time brings the study of psychology into the realm of science.

Again quoting from Barker: "But even when all the sense areas of the cortex, extensive as they are, have become medullated, only about one-third of the surface of the cerebrum has been involved. As far as Flechsig has been able to make out, all or very nearly all of the projection fibers of the cerebrum are accounted for when the corticofugal and corticopetal paths of the different sensory motor areas, as outlined by him, are summed up. But nearly two-thirds of the whole of the cortex yet remains to be accounted for. What is the significance, then, of the regions which are not provided with projection fibers? The studies of Flechsig have thrown these portions, which in a large part correspond to what we have been accustomed to call the 'silent areas' of the cerebral cortex, into bold relief. . . . Thomas, speaking in this connection, says: 'Flechsig's association centers are what have been called the silent areas of the brain; but we are forced to believe that they are silent, not because they do not speak, but because we are too dull of understanding to hear what they say.' . . . Flechsig 'thinks that they are connected indirectly by means of association fibers.'" (Barker: The Nervous System, p. 1071.)

Briefly stated, this is the general anatomical and physiological conception of the brain up to date as it is conceived in the light of the neurone theory, and we can readily appreciate that we are "almost infinitely distant from any approximation to such astronomical accuracy," when two-thirds of the cortex is yet unaccounted for, and in which "the individual sense areas are isolated, not touching one another." To bring a system of relation by the anatomic and physiologic route between the great variety of the individual sense areas through this vast, unknown, and "silent area" in the brain would be, indeed, a Herculean task, a task

as difficult as to learn the system in the heavens without astronomic physics. But fortunately in psychics, as well as in astronomics, we have gleaned some general principles, the bases of which are that the body functions as a whole, and of which the brain is a related part; that only by the continued and connected functions of all the parts as interpreted by the continued function in the brain is it possible to correlate all its special sensations or functions into the related system of the unity of life, feeling, or mind, and to produce which there must be as systematic, related, connected, and continuous an anatomical and physiological function in the brain that pervades in other organs. In no other way do they become intelligible to us. This all psychological experience demonstrates. With this general idea to guide and direct us, let us study its psychophysics.

The student of anatomical neurology, physiology, and psychology of to-day reminds me very much of the time when Emperor Hadrian sat in his tower studying the vast and chaotic mass of facts in the heavens, thereby endeavoring to cast a horoscope of the future. He as well as they had no conception that all was held together by a continuous and related system, and is why the problem appeared "almost infinitely distant" from approximating it into a scientific and related unity of system. It is impossible physically to understand how the neurones and special sense areas as dynamic entities can ever interpret even the most simple functions of life and feeling. Out of them we can, indeed, build a systematic, related, and somewhat connected functional continuity, but it is so broken, intermittent, and so out of tune with the general continuity of living function, that at every turn the answer comes back: Impossible, because incomplete. We must have some general physical conception of life that will direct and guide us into the more minute details before we can build it into a scientific system, and this the circulation in the nervous system gives us.

The nerves, carrying their special energy from all parts of the body and the world without, transmit it to the special parts of the brain with which they are anatomically connected in the "silent area," the "two-thirds of the cortical brain" that is unaccounted for, and which is a diffuse and connected plexus of cells that are continually functionally active and give it its basic tone of feeling; and when any special nerves carry unusual functional activities into it, it at once gives rise to the special sensation or feeling, but of which they are a related part of the whole. It is thus that feeling is the basis of the unity of the function of the brain, upon which the nerves with all their variation and

activity of function play. This conception at least has the merit that it harmonizes with the general body of our experience, and the contrary must first be proven before we shall cease to recognize it. It is a working hypothesis to direct and guide us in biology and physiology that is as unerring as gravitation or any other law in physics.

The nervous energy transmitted along the nerves with least resistance and at about the rate of from thirty to two hundred feet a second in the human organism into the brain must be accounted for; it is not lost, and we know it is not transmitted through the cortical brain with this rapidity, but is inhibited therein and adjusted into the related unity of the bodily functions in general as interpreted in our feeling, with all its variations of expression in the forms of ideation, volitions, and waste products of function. It is taken up as physical energy, organized into a related and constructive unity of energy, and again expended as such. Everything that goes in must be accounted for, and thus we find that life with its feelings is a part of the same conservation of energy that pervades nature in general.

Let us take into general review those special faculties of the mind we call consciousness, reason, ideas, and volitions. The first thing that attracts our attention is the fact that we *feel* much has been thought and written on this subject. Also we *feel* that it is a very involved one without system. We *feel* at the present moment only a diffuse *feeling* of it, the result of our past study and experience. There is one thing, however, of which we are certain: *We have a diffuse feeling of it at the present;* also, that this feeling is the general basis or foundation of it; that it is an organized system of feeling and is always with us; that it is the first to come into view in our conscious experiences and the last to fade out. Also that this feeling is the organized function that must direct us into the study of these special states of conscious existence, for it is the measure of our bodily equation as transmitted to us by heredity, molded and organized by our special environment, and hence as enduring and creative and constructive as nature itself. The special thoughts or ideas do not "direct the feeling," but the feeling the special thoughts or ideas.

With this state of our feeling the subject that engages our attention makes us specially conscious that we must concentrate our feeling along these special experiences. To do this we are at once engaged in the "consciousness" of our task; our "reason" is brought to bear, the "ideas" we have must be brought into use, and we can only convey them by "volition" of speech, or writing them. And thus our feeling is going through the whole of the

problems we have set out to analyze; indeed, that they are only special expressions of it by concentrating it into the special attention for the moment. If we should be approaching Niagara Falls all our special ideas and states of the then conscious bodily feeling would vanish, and the stupendous energy displayed in its varied forms would consume the whole of our attention, and cause a great variety of related thoughts and ideas to come into the field, but which soon fade; still our general feeling remains, although made richer by this special feeling, and hence enlarges the continued unity of its experiences. The special state of conscious feeling is only a related part of the general feeling.

From this brief review of the facts in our experience we are justified in stating that feeling is the fundamental basis of "mind" in which consciousness, reason, ideas, and volitions are but transitory expressions the result of its concentration into special experiences, and that we cannot understand, much less formulate them into a system, until we have some general conception of feeling. This is why the study of these special states of feeling is so unsatisfactory, inconclusive, and keeps us in a state of chronic confusion. It is no exaggeration to say that this is our present state of psychology—a chaos of facts without system or order. It must be leavened with some general principle before we can formulate it into a related and scientific unity. This the continuous unity of feeling with its variations of expression gives us. But if feeling is the organized and continuous measure of the unity of nature, then it must be maintained by the continuous function of the body and its reaction upon the world, regularly, constructively, and systematically, and is again demonstrative evidence of the continuous circulating vital or nervous energy in the nervous system, with its differentiation of function to react upon the special forces, and all assimilated into the related unity of feeling.

In all works on psychology with which I am familiar, feeling is treated as a faculty or part of the mind, an accompaniment of consciousness, reason, ideas, and volitions, although it must be admitted that in the most advanced school, of which Herbert Spencer is the leader, it has received some recognition of its importance, for he states that "mind consists of feelings and relations among feelings." This still leaves it as a special entity and subsidiary phenomenon. I would simplify this by stating that *mind is feeling with its variations.* In the great work on psychology by Professor James there is not even an analysis of feeling; he treats it as "sensations" with their variations. This to me appears as a great error, because the tendency leads to

confusion. A sensation *per se* as an entity has no existence in fact; as such it only becomes a sensation after the special sensory irritant or stimulant is adjusted to or equilibrated with all the other functions as interpreted or measured in the unity of feeling.

Höffding says: "Sensations looked at *psychologically* arise out of nothing. They are the primitive elements out of which conscious life is woven, but their explanation cannot be found within its web, if indeed it can be found at all." This is one of the most concise and typical examples of the trend of psychology, and illustrates the fact that in the study of the highest function of the "mind"—consciousness—we have not even the rudiments of a system. To understand it, we must delve down into its basic and related forces that gave it existence. We cannot understand the life of the rose without a knowledge of the life of the rose-bush; neither can we understand the general physiography of the earth by studying its streams and mountains—they are only related parts of the whole of its phenomena. This is equally as true of psychology, when we assume that consciousness is the axis around which it revolves, when in fact it is only the blossom or fruit of the related whole. We have been kept in this confusion because generally we believe that "sensations arise out of nothing," and which is the fundamental error. Let us analyze a sensation and find where this error is.

We have shown that the special sensation of Niagara Falls consumed the whole of our feeling for the time and made it richer by its experience. Indeed, we carry the sensation away with us, but leave the Falls that caused it behind, and has caused us to believe that the "sensations, looked at *psychologically*, arise out of nothing," and "cannot be found within its web" of consciousness. Let us follow its psychophysics. On approaching the Falls we hear a mighty, confused, tremendous roar. How do we know this? Our past experience causes us to believe that to produce it there must be a tremendous energy expended to lash the air into this confusion of aerial vibrations that are transmitted to the terminal fibers of the auditory nerves, upon which they react, stimulating them with this unusual force, and carrying it to the brain, wherein it becomes adjusted with the other sensations and experiences similar in kind that have gone before, and is why we have come to the idea formulated above of the roar. But we have traveled too fast and formed a conclusion without tracing its cause. The vibrations of the air that react upon the terminal fibers of the auditory nerves do not cease to vibrate; their energy continues on, the physical reaction they cause in the terminal fibers only changes the rate of motion in

the reaction into vibrations of nervous energy in their characteristic way, and are transmitted by the auditory nerves to the auditory centers in the brain, wherein they again undergo their characteristic reaction with their specialized activity, and which again is transmitted to other parts of the brain by the association fibers, and so give rise to the associated and related experiences. The energy never ceases in its circuit of function, and remains as an acutely conscious sensation until it is adjusted and equilibrated with the whole, and stimulates us on that we may learn what causes this roaring sensation.

As we approach nearer to the Falls the intensity of the roar increases with its state of special feeling, and is stimulated to increased activity by having it unfolded to our view. The unusual and unique vibrations of light taken up by the retina go through the same physical or physiological reactions we have followed in the ears. The waves of light are translated or assimilated into nervous energy and transmitted with its various reactions into all parts of the brain in the continuous circuit of function, and again giving rise to all the past related experiences similar in kind in our organized unity of feeling.

But how, then, do we carry away with us the immensity, volume, and size of these experiences, when in fact we only take up an infinitesimal part of the energy by the way of the ears and the eyes?

The energy of the Niagara with all its variations is being adjusted into a related physical equilibrium constantly and continuously, with great rapidity, so that all parts are very much alike as we perceive it in our senses, and that the mite we take up with our ears and eyes gives us a miniature facsimile of the whole. This disturbed equilibrium of energy with its infinite variety reacts upon the thousands of terminal fibers in the ear and the eye, with their specific reactions giving rise to the great variety of the sensations, all of which are carried by their special fibers, of which there are again many thousands of kinds in the auditory and optic nerves, and carried into the brain wherein they are adjusted or assimilated into a related unity of function, and during which they give rise to all the varied states of special experiences, and is why we only know them as related parts of the whole. In no other way could they come into view. This is why we carry the Falls away with us; it is a finite Falls of the real Falls; a miniature, organized, and related facsimile of the energy of the Falls with all its relations and proportions woven into our experience in the same order of relation of function. It is not a facsimile or picture of the Falls that we carry

away, but the related unity of energy its reaction has caused upon the sensory nerves as adjusted in the brain to all past experiences. This is why to reproduce it we must stimulate these special functions into increased activity before it will rise again into conscious being.

Wonderful and interesting as is the fact that Niagara Falls is only a related functional experience in our feeling or mind, it is still more wonderful when we think that the Falls is only an infinitesimal and related part of the world we know, as given in our unity of its experinece. This is why the unity of nature and the unity of the mind we know it with is symbolic of the same reality. The greater our experience of the world, the more comprehensive is its unity in the feeling or mind. This, again, means that the special experiences of the world of phenomena can only be known as such in the organized unity of feeling. Everything in the world is symbolical; the things of which they consist is our experience of them in the organized unity of feeling. The constancy of the one causes the constancy of the other, and is the limit of scientific knowledge.

In the pursuit of the present study of the psychology of feeling we have made so many excursions into related problems and burdened it with facts and experiences, that possibly the baggage is too burdensome for our theme, and before going on let us summarize it all into a more concrete form, that we may follow and comprehend its weakness and strength more clearly. Everything we feel within has its reality without. The reality of the one is that of the other, interdependent parts of the same unity; the physical and psychical unity have the same identity; the only world we know is the organized unity of it woven into our feeling. What, then, is feeling?

The first and very interesting question asked is: If feeling is a continuous and organized unity of function and the fundamental basis of mind with all its variations, and if we only know this feeling in our states of conscious existence, what, then, becomes of it during our unconscious or sleep life? This question might with equal propriety be asked of mind and states of consciousness, but we shall confine ourselves here exclusively to feeling, and the answer will be along general principles, allowing the details to come into view further on. If feeling with all its variations is the measure of the bodily functions with all its variations as we know it in our conscious feeling, it must have a certain tensity and activity of variation. During our active waking life the incitements and stimuli are always of suffi-

cient variation and intensity to cause a continuous state of conscious feeling, but as we go to bed they gradually subside until they sink down into unconsciousness, into such an organized equilibrium that they do not rise into conscious existence, and we call it sleep.

We know from personal experience and observation that during sleep this organized and unconscious feeling is still active and systematic, and may even rise to the subconscious existence we call dreams with all their variations, because the disturbance of the equilibrium of function is so great as to give rise to their existence. My personal experience causes me to believe that the organized function of feeling is constantly at work during the most profound depths of sound sleep, for never have I been suddenly awakened that I did not find myself engaged in a vague and nebulous process of its function. But the fact alone that an alarm causes it to rise into an active state of consciousness by the disturbance of its equilibrium is in itself a demonstration of the fact. Indeed, during sleep the bodily functions are undergoing the most stable and constructive processes of repair that they may react to the special stimuli with endurance and vigor in the organized conscious equilibrium with all its variations. This unconscious feeling might be demonstrated by an almost endless number of facts in physiology and psychology.

If feeling is the continued reaction of the world without on the organized world within, as interpreted into a related unity in the brain, we are at once confronted with some special physiological and pathological facts that appear to negative the idea. To illustrate: John Hunter mentions a man suffering with paraplegia; upon irritating the soles of his feet there was a motor response, and he asked him if he felt it. He said, "No, sir, but you see my legs do." Is this feeling, or simply an organized reflex action? The frog which has been deprived of its hemispheres gives very complex and systematic responses to irritations; is this feeling, or simply reflex action? If feeling is the result of the function of the brain it would appear to have no part in it, and yet we positively state that it is a form of specialized unconscious feeling. What, then, is the relation between them? This is a very comprehensive problem, upon which volumes have been written and a vast amount of evidence stored up, and which we have not the time here to go into a detailed analysis of, but only to give the general principles with the hope of some system of relation.

In these special experiences one thing is at least clearly evident: that is, the conscious unity of feeling is dependent upon

these lower anatomic functions, while the latter may function without it; but the continuity of the organized unity of relation between them is imperfect and incomplete; they are both halt and lame. What does this mean? In the organized unity of feeling there is a physiological division of labor in exactly the same sense as in the organized unity of life, and the spinal cord may function as though endowed with feeling and will to special stimuli the result of its organized habit; but it is a specialized function with its specialized feeling, is unconscious because conscious feeling is the related unity of all as adjusted in the brain. Paradoxical as it may sound, all we know is a related part of this unity of feeling. This unity has all the variations with which we are familiar from the ameba to man. In man it has only become more specialized in its division of labor; he reacts upon a much wider range of the forces of the world in a definite way, and thus becomes familiar with their special relations. It is the same unity, only more highly organized and complex.

As surely as all living organisms are cells or combinations of cells with their physiological division of labor, just so surely also must "mind," the science of psychology, be an evolution with its division of labor, the basic terms of which must be discerned in the lowest forms of life. This we find to be true, for what the simple ameba is to life (the science of biology) it is also to mind (the science of psychology), and the basis of which is feeling, with its physiological division of labor. "In order to maintain his own existence, the individual must be able to feel the importance of the existence of other things."

Every organism that reacts upon the forces of its environment along definite lines of constructive development has in it feeling. In the simple amebæ we have positive evidence that when they come close to or are in contact with substances that are agreeable to their existence, they have an affinity for them, stretch out their arms or pseudopodia, surround and assimilate them. If they come in contact with substances that are not agreeable but tend toward their destruction, they at once retract from them. This is the organic basis of feeling swinging between the agreeable and disagreeable, between pleasure and pain; and thus, with the increasing organization of life, from the ameba up to man, there goes with it an increasing organization of feeling. It is hence not only evident that the evolution of the organism is a biological constructive process, but what is more, its constructive and enduring forces are directed by its feelings, the measure of its reactions upon the forces in which it lives, and is also an evolution.

In this sense, from this point of view, we might say that

the real life is really the psychical life, the life of feeling, and that the special physiological functions of the organism are in reality only the special physics of it as adjusted by the psychical unity of feeling. But this special division of relation, true as it appears, in the final analysis resolves them all into a phenomenon —the unity of nature. The evolution of the psychic phenomenon we call feeling has as fundamental a reality as the evolution of the organic world. Indeed, we cannot separate them. They go hand in hand as related parts of the same unity, subject to the same unerring laws that pervade in general.

As our physical bodily life is an evolution woven out of the physical phenomena of nature without a missing link in the chain that extends through countless ages of time, so is also our feeling. The more we know of this unity of relation the greater and larger is our life as measured by our feelings. The life of feeling is not measured by years—years are only sands upon its shores, as cells are but living atoms in our bodily unity. In our feelings we live in all the ages. It has no limit in time or space. It is intimately and inseparably related to the time when our solar system was but nebulous energy; we follow its organization and development through the eons of time, observe planet after planet born out of its stupendous mass, nurse them to their present existence, and find them so attuned for continuance, so intimately and delicately adjusted to nature, that the ideal, sublime, and wonderful harmony of the present is carried on the wings that allure and beckon, and guide us on into the infinite future with the same unerring accuracy. Indeed, our feeling is the world, or the world our feeling. As this is bounded on all sides by limitations and incompleteness, it is only the finite world of the infinite world, the finite feeling of the infinite feeling; all related parts of the same unity.

This is why the study of psychology—of feeling—must always seek its foundation for it in the physiological functions of the body out of which it is born, and the forces of which it cannot transcend. While this gives it a distinctive and scientific existence, establishes it on a firm physical basis, it is not, as some would have us believe, a philosophy of the world and mind. It is only the science of it; not a solution.

# THE MEDICAL AGE.

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## EDITORIAL ARTICLES.

### THE ETIOLOGY OF SUMMER DIARRHEAS OF INFANTS.

During the past summer various accounts have appeared in the lay press about the discovery of the specific germ of summer diarrhea of children. These statements have been made without any authority whatever from the investigators. The work has been done by C. W. Duval and V. H. Bassett, under the charge of Prof. W. H. Welch, of Johns Hopkins University. The investigation was conducted under a grant from the Rockefeller Institute of Medical Research, and done at the Thomas Wilson Sanitarium, Mount Wilson, Baltimore, a charitable institution where hundreds of infants suffering from diarrhea are treated each year. Duval and Bassett have issued a preliminary report in which they say that a careful study of the bacterial flora of a number of these cases was made, and from forty-two typical cases of summer diarrhea they succeeded in isolating from the stools Bacillus dysenteriæ Shiga. The specific organism was secured, also, from scrapings of the intestinal mucosa at autopsy, and in one case from the mesenteric glands and liver. The dysenteric bacillus was present often in large numbers in the stools of acute cases, but was secured with difficulty from cases of mild character and those of long duration on account of its presence in relatively small numbers and the antagonism of the normal intestinal bacteria. The specific bacilli isolated from different cases of the disease are identical, and agree in morphology, cultural features, pathogenic properties, and reaction to specific serum with the dysenteric bacillus isolated from cases of acute dysentery in adults by Shiga in Japan, Flexner and Strong in the Philippines, Kruse in Germany, and lately by Vedder and Duval in this country. Agglutinative reactions were obtained when the organisms were tested (*a*) with the blood-serum of the patients from whom

they were secured; (*b*) with the serum of other infants suffering from summer diarrhea; (*c*) with the serum of adult patients with acute dysentery; (*d*) with antidysenteric immune serum. The specific bacillus was not found in the stools of twenty-five healthy children, nor of those suffering with simple diarrhea, marasmus, and malnutrition; nor did the blood-serum of these latter individuals agglutinate the dysenteric bacillus.

They believe that their findings justify them in the conclusion that the summer diarrheas of infants are caused by intestinal infection with Bacillus dysenteriæ Shiga, and therefore are etiologically identical with the acute bacillary dysentery of adults. The cases studied, from which the dysentery bacillus was isolated, included examples of so-called dyspeptic diarrhea, of enterocolitis, and of malnutrition and marasmus with superimposed infection.

It is to be sincerely hoped that the discovery of the bacillus causing this affection, which with its terrible mortality is so much dreaded, will lead to methods of its cure and prevention which are more efficacious than those which we at present possess.

## EDITORIAL NOTES.

### The Efficacy of Antityphoid Inoculation.

Surgeon-Major Wright, of the Army Medical School at Netley, has recently published in the *Lancet* the results of his antityphoid inoculation made in South Africa during the course of the Boer war. He claims that his results were highly gratifying, as the mortality was much less among the troops who were inoculated than among those who were not. Wright gives the statistics of the garrison at Ladysmith. Of the 12,234 composing the garrison there, all of whom were exposed equally to typhoid infection, 1705 submitted themselves to inoculation. In the period from November 2, 1899, until February 2, 1900, there were 1489 cases of typhoid among those who had not been inoculated, and only thirty-five among those who had been inoculated, instead of about 250, which would have been their due proportion. There were eight deaths among those who had been inoculated to 320 among those who had not been inoculated. The death-rates of the two groups were respectively .047 and 3.12.

Wright has certainly added much that is valuable to our knowledge of protective measures against typhoid, but he points out that much work is yet to be done before antityphoid inoculation can be expected to afford uniform results.

## A Tribute to Virchow.

The telegram sent by the Italian Minister of Agriculture, Dr. Guido Bocelli, to Professor Posner of Berlin on the occasion of the death of Rudolph Virchow expresses in beautiful language the feelings of students of medicine and science all over the civilized world. The despatch was as follows: "Wherever, the whole world over, science and freedom, integrity and character are held dear, the highest honor will be paid to the memory of Rudolph Virchow. A light and ornament of our friend Germany, he was for more than half a century the master, acclaimed by all masters, in the domain of medical culture. For us Italians he was ever the tender friend, unforgetting and unforgotten. I think I see him still at Berlin on the day of his apotheosis, as he sat in the august assembly on a chair enwreathed in laurel, concealing from himself with the sweet serenity of a great soul the triumph he had earned, so as to leave his heart free to its loving sense of gratitude. I beg you, my dear Posner, to convey to his family, to his colleagues, to his friends, our deep fraternal sorrow—sorrow tempered only by the words of Tacitus: 'Non est lugenda mors quam immortalitas consequatur.'"

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## Spotted Fever of the Rocky Mountains.

An interesting account of this disease is given by Wilson and Chowning in their report to the Montana State Board of Health. Spotted fever occurs in a small area of the Bitter Root Mountains. The disease is characterized by high temperature, rigors, and the recurrence of a macular rash, at first rose-colored and discrete, but afterward purplish and confluent. The rash commences on the second to the fifth day about the wrists, ankles, and back, but afterward extends all over the body. The disease lasts for two weeks and then begins to subside by lysis, and convalescence commences about the end of the fourth week. The disease only occurs in the spring, and has a mortality of from seventy to eighty per cent. No bacterial form could be isolated, but there are present in the blood protozoan parasites not unlike the pyrosoma bigeminum of Texas fever. Dr. J. O. Cobb, of the U. S. Marine Hospital Service, who was sent by the government to this district to investigate the disease, advances the theory that it is due to a protozoan parasite, infection being caused by the bite of a tick.

# ITEMS AND NOTES.

YELLOW FEVER is raging in the Amazon Valley, Brazil.

THE city of Liverpool furnishes to the poor at a low price sterilized humanized milk.

DR. GEORGE C. PARDEE, of San Francisco, has been nominated for governor of California.

TO practice medicine in Peru, a physician must pass a State medical board examination in Spanish.

THE New York State Nurses' Association demands legislation recognizing nursing as a profession.

SINCE 1897 there has been a decrease of nearly seventeen per cent in the number of students studying medicine in Germany.

FOUR cases of bubonic plague have occurred in San Francisco during the month of August, all in Chinamen and all fatal.

THE house in which Esmarch was born at Tonning, in Schleswig-Holstein, has been marked with a tablet by the local authorities.

THE annual meeting of the Medical Society of the Missouri Valley was held at Sioux City, Iowa, August 18, under the presidency of Dr. R. C. Moore, of Omaha.

THE third annual meeting of the British Columbia Medical Association was held in Vancouver August 29 and 30 under the presidency of Dr. R. F. Walker, of New Westminster.

DR. M. SKJELDERUP died at Christiania August 21. He was ex-professor of therapeutics and one of the founders of the local medical journal, now the *Tidsskrift f. d. Norske Laegenf.*

THE annual meeting of the American Association of Obstetricians and Gynecologists was held in Washington September 16 to 18 under the presidency of Dr. Edwin Ricketts, of Cincinnati.

ONE HUNDRED AND FIFTY THOUSAND DOLLARS has been offered by a well known banker of Jersey City toward building a new hospital, provided residents of the city will raise an equal amount by subscription.

Major Ronald Ross of the School of Tropical Medicine, and formerly of the Indian Medical Service, is shortly coming to this country in response to an invitation to investigate malaria.

The Czar of Russia has in attendance twenty-four physicians. There are a physician-in-chief, ten honorary physicians and four honorary surgeons, two oculists, a chiropodist and an honorary chiropodist, two court physicians, and three specialists for the Czarina.

The New York City Health Department has issued circulars to all physicians in the city asking them to report all cases of malaria. The object of this circularization is to receive all possible information as to the occurrence and distribution of the disease with a view to adopting measures of prevention.

The twenty-eighth annual meeting of the Mississippi Valley Medical Association will be held in Kansas City, Mo., October 15 to 17, 1902, under the presidency of Dr. S. P. Collins, of Hot Springs. The oration in medicine will be delivered by Dr. Hugh T. Patrick, of Chicago; the oration in surgery by Dr. Geo. W. Crile, of Cleveland.

The publishing house of Gustav Fisher, of Jena, announces two new journals, the *Zeitschrift f. Allg. Physiologie,* issued by Prof. M. Verworn of Göttingen, and the *Archiv für Protistenkunde,* issued by Dr. F. Schaudinn of Rovigno. The price of each is 24 marks a volume. "Protistenkunde" means the science of the first forms of living matter.

Some remarkable statistics are quoted from Berlin, says an exchange. Out of nearly 2,000,000 children born since 1825 there are reported 22,441 sets of twins, 229 sets of triplets, and three sets of quadruplets. During the same period in London there were about 14,000 sets of twins, 75 sets of triplets, and two sets of quadruplets. Paris figures show 7500 twins; triplets, 25; no quadruplets.

The Brazilian Academy of Medicine offers a gold medal and diploma for the best works received during the year on the following subjects: Influence of malaria as a determining factor in aortic heart affections; fevers at Rio de Janeiro; clinical study of intestinal sutures; treatment of umbilical hernia; carcinoma of uterus; puerperal eclampsia; rôle of vegetable oxidases in therapeutics, and study of the mineral waters of Brazil; besides a few topics of merely local interest.

THE present biological school at Wood's Holl is, according to the *Philadelphia Medical Journal*, to be much enlarged and so developed that in construction, equipment, and endowment it will be the finest biological laboratory in the world. A large sum has been set aside for this out of the $10,000,000 recently given to found the Carnegie Institute in Washington, D. C. Heretofore this school has been maintained largely by the University of Chicago. The new buildings to be erected will contain the most delicate instruments and every appliance that can aid the scientists in their work. It is hoped that some remarkable biological discoveries will result.

PROF. E. GAUCHER has been appointed the successor of Fournier, retired on account of the time of service limit from the Paris clinic of cutaneous and syphilitic affections. Gaucher, according to the *Journal of the American Medical Association*, matriculated in 1882, and was assistant to Potain at one time. He is a Parisian from childhood, and has been crowned with the laurels of the Académie de Médecine on three occasions. He has been *chef de service* at the Saint Antoine Hospital since 1892, and has been agrege for the same length of time. His works on general medicine and on dermatology are numerous and important. He advocates severe legal measures to punish the transmission of syphilis, as a matter of common law, applying equally to women and to men.

AN unusual point of law, the first of its kind ever raised in Canada, and it is stated the second on record, has recently, says an exchange, been pronounced on and decided at Toronto by Mr. Justice Lount. A farmer in the western part of Ontario died, leaving a widow and four children. A fifth child was born four months afterward. The case turned on the division of a $2000 insurance policy, which according to the will was to be turned over to the widow and children in equal shares. The administrators applied to the court for advice as to whether or not the infant child born after the death of her father was entitled to a share in the insurance money. His lordship ruled that a child, although unborn, is still a child in law, and takes rank as a child living at the death of its parent.

ACCORDING to the *British Medical Journal* a movement has recently been set on foot in Russia for the establishment of a regular tariff for medical services. At present the doctor is almost entirely at the mercy of his patient, and if the latter offers an inadequate fee he has no means of enforcing payment on a proper

scale. In the matter of fees as well as of travel Russia would seem to be a country of magnificent distances. At one end of the scale one hears of the late Professor Botkin receiving $5000 for a simple diagnosis, and $8000 for three days' attendance on a millionaire, while the late Professor Zakharin received $15,000 in addition to expenses for two days' attendance on the Czar Alexander III. At the other end of the scale, where a large proportion of Russian practitioners are found, the average fee is a few kopeks.

According to statements made by friends of the late Dr. Schenck, says the *Journal of the American Medical Association,* his theory of sex determination was very largely developed by his later researches. His latest theory maintained that mothers by persistence in special diet could lay the foundation of particular talents and capacities in their children. He hoped to extend his theory to the point where parents might not only gratify their wish to have a son, but might have a son who would become a talented musician, author, or mathematician. Dr. Schenck was confident that he would be able eventually to make it possible for mankind to control the entire mental and physical qualities of its progeny, thus avoiding the production of degenerate specimens and inaugurating an era of healthy and vigorous humanity. Two of Dr. Schenck's sons are physicians, who intend to devote their professional careers to developing their father's theory.

The International Conference on Improving the Condition of the Insane opened on September 8 at Antwerp, under the presidency of M. van den Heuvel, the Belgian Minister of Justice. Those attending the conference included a representative of China, as well as delegates from most of the leading countries of Europe. The general opinion expressed at the Congress was that cottage settlements were preferable to asylums in the treatment of the insane. The following resolutions were passed before the Congress closed: (1) That the confinement of the insane henceforth be abandoned except in the cases of those recognized as dangerous. (2) That the system of boarding insane persons with families be carried out whenever possible. (3) That it is expedient to renew the wish formulated at the Congress at Paris for the establishment of schools for special classes of the mentally weak under medical supervision. (4) That the manner of placing patients be entirely left to physicians. (5) That forcible restraint should be condemned.

# THE PROGRESS OF MEDICAL SCIENCE.

## SURGERY.

### Surgery of Tubercular Cavities of the Apex of the Lung.

De Forrest Willard (*Journal of the American Medical Association,* September, 1902) thinks that with improvement in technique pneumotomy will become a practicable operation, even in cavities at the apex. The operation would be especially helpful in the early period of cavity formation, but it is exceedingly difficult at this stage to obtain the consent of the patient, since hygiene and dietetic methods of treatment often result in cure.

In advanced cases, both tubercular and streptococcic infection are often present; the cavities are usually multiple, and the operation cannot cure. It may be employed, however, as a palliative to cough, hemoptysis, and sepsis.

In abscess of the lower lobes, following pneumonia or pleurisy, whether tubercular or not, incision and drainage is to be recommended in any stage.

Pneumonectomy in our present stage of surgical and diagnostic skill is not advisable in tuberculosis.

With improved technique tubercular foci will in the future be eradicated, as we now eradicate tuberculosis in joints and other tissues. An efficient and certain method of producing strong adhesions between the two layers of the pleura at the site of the disease is the most important step in this technique.

The careful and methodical application of auscultation, percussion, and the *x*-ray for the accurate locating of the diseased focus, is also an important factor in securing a safe operation.

Pneumothorax is so serious a menace to life that in all operations on the lung an artificial respiration apparatus, like the Fell O'Dwyer or Matas instrument, should be at hand, together with a full jar of oxygen.

### The Surgical Treatment of Chronic Bright's Disease.

J. A. Schmitt (*Medical Record,* September 13, 1902) says that in acute infectious diseases anuria with uremic symptoms threatening the life of the patient can be successfully combated by capsular incision or renal cleavage, which relieves congestive swelling and excess of intrarenal pressure. Operation on one

side is sufficient to bring about an abundant urinary secretion, followed by a subsidence of the alarming general features. Whether the other kidney gains time to recuperate and reassume its function, or whether reflex action plays a predominant rôle, are debatable points. At all events nature seems to get along with a small portion of functionating kidney tissue.

Anuria with uremic symptoms, occurring in the course of chronic Bright's disease, has afforded an occasion for surgical procedure. To recognize such an indication on reasons which are analogous to those above mentioned is, of course, a matter of individual judgment. Temporary relief, in some instances, has been gained—a permanent cure, however, has never been effected.

When the kidney has been operated upon directly for the cure of chronic Bright's disease the outcome has been a failure. The apparent benefit manifested in the disappearance of dropsy, dyspnea, etc., occurs just as regularly in the ordinary course of the treatment by medication and capillary drainage or puncture.

In exceptional cases colicky pains and hematuria are caused by chronic Bright's disease. Capsular incision or cleavage of that kidney to which the disturbances were traceable has been attended by excellent results; there can be no doubt that, when medical expedients have failed, surgical interference has succeeded in checking the hemorrhages and alleviating the pains, but it does not inhibit the progress of chronic Bright's disease.

Nephropexy may cure the ailments incident to movable kidney; it may remove albuminuria, if this be the result of local irritation, consequent upon the displacement; if, however, the movable kidney is affected by chronic Bright's disease, this affliction will remain uninfluenced by operation.

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### The Diagnostic and Therapeutic Value of Ureteral Catheterization.

Louis Gross (*New York Medical Journal,* September 13, 1902) says that by ureteral catheterization can be determined: (1) Whether the bladder or the kidney is the seat of the affection. (2) The presence or absence of a kidney. (3) Which kidney is involved. (4) The site of the lesion. (5) The functional capacity of each kidney. (6) The presence of a calculus in the ureter or pelvis of the kidney and its exact location. (7) The presence of strictures in the ureter and their exact location. (8) The diagnosis and site of ureteral fistulæ. (9) The presence of a pyoureter. (10) A differential diagnosis between diseases

of the kidney and the surrounding organs. (11) At times a tuberculosis of the kidney. (12) The diagnosis of pyelitis, pyelonephritis, pyonephrosis, movable kidney, neoplasms of the kidney, renal lithiasis. (13) Abnormal congenital conditions of the ureter.

Therapeutic value: (1) To cure pyelitis and certain cases of pyonephrosis and hydronephrosis. (2) To drain pocket formations. (3) To dilate strictures of the ureters. (4) To dislodge small calculi of the ureter. (5) To drain the kidney after nephrotomy. (6) To prevent injury to, and stitching together of, the ureter in certain operations. (7) To prevent and cure renal fistulæ. (8) As a guide to certain operations on the pelvis of the kidney.

Gross claims that there is comparatively little or no danger of infection if one carefully disinfects his instruments and thoroughly irrigates the urethra and bladder.

The fact that it takes practice and skill should not discredit the method, considering its importance as a therapeutic and a diagnostic factor.

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### Fracture of the Base of the Fifth Metatarsal Bone by Indirect Violence.

Jones (*Annals of Surgery,* June, 1902) shows that this fracture, although no reference is made to its surgical literature, is a common injury. To an experience of it in his own person the author adds five cases in which the precise nature of the injury was proved by the *x*-rays, and he states that for many years he has heard the symptoms of this accident related to him, and although he has often suspected a fracture he found it impossible to demonstrate the lesion. The symptoms which usually follow the transmission of body-weight to the injured foot in the position of equino-varus are: (1) Pain when the patient endeavors to put pressure on the toes or inner side of the foot, when he fixes the toes, or attempts to invert; and (2) swelling generally localized over the fracture. There is generally no crepitus, no deformity, no yielding on manipulation. This injury, it is stated, is due to a cross-breaking strain directed anteriorly to the base of the metatarsal bone, and caused by body pressure on an inverted foot while the heel is raised. The prominent base of the fifth metatarsal bone being closely bound to the cuboid and to the fourth metatarsal bone by strong ligaments on every side, it is obviously easier to break the bone than to dislocate it. When the heel is off the ground the body-weight expends itself

upon the fifth metatarsal, rotating it slightly inward. The opposition to this force takes place at the base of the bone, where the strongly attached ligaments resist its displacement. Crepitus is not felt in this injury. Probably because the line of fracture runs toward the interosseous ligament, and the fragments are therefore fixed, is because impaction may occur.

## MEDICINE.

### Paratyphoid Fever.

Johnston (*American Journal of the Medical Sciences,* August, 1902) reports four cases of paratyphoid fever, in two of which a paratyphoid bacillus was isolated from the blood, while in the remaining two the diagnosis was based upon the ability of the patients' serums to agglutinate Gwyn's "paracolon" bacillus and the organisms isolated from the other two cases. Widal's reaction was negative in all. From an analysis of all reported cases from Paris, Germany, United States, and the Philippine Islands, the greater number have occurred between July and November, the disease most frequently affecting young adults, and males more than females in the proportion of about three to one. The temperature charts are generally those of typhoid fever, though in two cases the initial rise was rapid, preceded in one instance by two or three days of subnormal temperature; while in a few others marked remissions and irregularities, unassociated with the severity of the attack or with complications, and in three instances a termination by crisis, were noticed. Relapses generally terminating by crisis, and of shorter duration than the initial attack, occasionally occurred. The pulse was slow and regular, with frequently acceleration toward the end of the disease, and dicrotism was present in one-third of those cases in which the tension was recorded. In more than half the cases rose spots, varying from a few on the chest and abdomen to an extensive exanthem, were present, and the spleen was enlarged. The onset was generally gradual, with headache, anorexia, general malaise, slight bronchitis, and occasionally abdominal pain with (in forty-one per cent) diarrhea, which latter occurred during some portion of the illness in sixty-two per cent, and albumin was present in a little more than half the cases. Of complications a purulent monarticular arthritis, myositis of the deltoid, femoral phlebitis, intestinal hemorrhage, cystitis, furuncles, and bronchopneumonia are recorded as occurring in a few instances.

The days of the disease on which the paratyphoid bacilli have

been isolated from the blood, and the date of their appearance in the urine, etc., are similar to the results obtained in typhoid fever. Negative results were almost invariably obtained upon testing the serum of typhoid patients negative to Widal's reaction with paratyphoid organisms, except in four reported cases, and it is concluded that, while there is a type of disease due to infection with paratyphoid bacilli clinically identical with typhoid, every instance of the latter giving negative results with Widal's reaction is not due to paratyphoid infection. Diarrhea and termination by crisis occur more frequently than in typhoid, while myositis and purulent arthritis (rare in typhoid) have been recorded as complications. The disease is usually mild and seldom fatal, and though occurring in similar localities to typhoid is comparatively rare, and the absence of intestinal ulceration may prove to be one of its distinctive features.

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### Recent Experiments on Clothes and Bedding.

Viola and Morrello (*Philadelphia Medical Journal,* September 16, 1902) have recently published the following conclusions, based upon their experiments: Clothing, linen, and other garments are capable of holding a relatively large number of microorganisms, varying from 915 to 571,962 for each square centimeter of goods. While the greater part of these bacteria are saprophytic, pathogenic germs are also found. The number of bacteria found in garments in actual contact with the human body is in direct ratio to the number of days the garments are worn. In general, the number of bacteria found in the clothing of a person is proportional to the activity of his occupation. Wool has a greater capacity for germs than cotton. Corresponding to the local bacteriological flora of the surface of the human body, there is a quantitative difference in the bacterial contents of clothing covering different parts of the skin. Wool is a more favorable habitat for bacteria than cotton or silk. In clothing actually being worn pathogenic bacteria live a shorter time than in the same garments hanging in a wardrobe. Pathogenic bacteria flourish better in garments of wool and cotton that are alternately worn and exposed to the air than in clothing constantly worn. Under all conditions, pathogenic bacteria contained in clothing gradually die out. There is with the passage of time a gradual diminution in the number of disease-producng germs with which a given article of clothing has been contaminated. There is also a progressive decline in the power of development of bacteria, as they undergo a gradual diminution

in virulence. The authors conclude that garments are a potent means for the diffusion of infectious agents, and that without special treatment pathogenic germs can retain their virulence in human raiment for a considerable but not indefinite period.

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### Environment as a Cause of Ague.

M. D. O'Connell (*Lancet,* September 6, 1902) says that cases of fever clinically identical with malaria occur in the blood of which parasites could not be found after repeated search before quinine had been given. The meteorological environment found where such cases occur, and indeed in all malarial climates, increases the amount of water in the blood of those exposed to its influence by impeding elimination through the skin and lungs (evaporation-heat loss) and through the kidneys. There is known to be increase of water in the blood of those suffering from ague (Liebermeister). Increase of water in the blood increases metabolism—*i.e.,* heat production—and produces a rise of body temperature (Payne). As environment thus causes diminished heat loss from the body and increased heat production within the body, it is plain that it causes pyrexia. This pyrexia must be of intermittent variety, as the environment which produces it is of intermittent intensity—*i.e.,* undergoes diurnal variation. Elimination of water from the blood (sweat) in ague reduces the temperature to normal. Increase of water in the blood produces poikilocytosis, pseudoparasites, liberation of hemoglobin, extensive destruction of red blood-corpuscles, and melanemia. An extreme degree of these changes obviously leads to hemoglobinuria. Increase of water in the blood produces enlargement of the spleen. Removal from the environment that produces increase of water in the blood usually cures ague. All treatment of ague which is efficacious reduces the amount of water in the blood. From these facts the writer thinks it is not unreasonable to conclude that those cases of ague or intermittent fever in which no parasites can be found are demonstrably due to the environment under which they arise.

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### The Morbid Anatomy of Chorea.

Okada (*Mittheil. aus der med. Fac. der Kaiserl.-Jap. Univ.,* Tokio, 1902; *British Medical Journal,* Aug. 30, 1902) records the case of a girl of twelve, in whom chorea set in six weeks after a first attack of acute rheumatism, and a fortnight after the first subjected signs of cardiac implication. Bronchitis, and

eventually double pneumonia, supervened, and the patient died just a month after the commencement of the chorea. The necropsy was made four hours after death, which was found to be due to double pneumonia, with staphylococcal endocarditis and pericarditis. Multiple thrombi, colorless, red, mixed, and hyaline, were found in the central nervous system, particularly the cerebrum. There was a deposit of clotty masses in the adventitia of a medium-sized vein in the globus pallidus, and of numerous fat globules in and on the cerebral blood-vessel. There had been a considerable amount of sensory disturbance in the case, and this the author associates with the multiple thromboses. He considers the symptoms of chorea to be due to vasomotor disturbances in the brain as the result of rheumatic toxemia, and regards the thromboses as the extreme expression of these changes. There is no satisfactory reference in this paper to the condition of the nerve cells.

## THERAPEUTICS.

### Treatment of Pneumonia.

R. W. Wilcox *(American Journal of the Medical Sciences)* at a recent meeting of the New York State Medical Association read a paper under this title. After briefly reviewing the various methods of treating pneumonia the author stated as follows:

So late as 1897 Osler believed that we had no reliable measures at our disposal to combat the toxemia of pneumonia. Within two years, however, Cassoute and Corgier reported that after continuous administration of fairly large doses of creosote carbonate (containing 91 per cent of creosote, and made from it by the action of nascent carbon dioxide) in most cases a typical fall of temperature occurred during the first twenty-four hours of treatment, and if the remedy was persisted in for a sufficiently long period of time the apyresis became permanent. Relapses and sequelæ so often seen under other methods were entirely absent. So positive an assertion could not escape attention. Creosote—better beechwood creosote—is not a new remedy, but its caustic action and its irritating effect upon the kidneys when given in necessary amounts have prevented its use. So pronounced were these untoward results that the writer abandoned its use in pulmonary tuberculosis several years earlier. The daily dose of creosote carbonate is from two to four drachms, the dose interval being six hours. So soon as the temperature

reaches the normal the amount is reduced to one-half, and this is continued so long as auscultatory signs persist. What are the results? Cassoute and Corgier reported favorably upon eighteen cases, Stokes seven, Bridges eight, Meitner thirteen, Eberson four, Van Zandt sixteen, Von Ruck twenty (complicating pulmonary tuberculosis), Weber nine, and Thompson eighteen cases. From these observations the statement of Van Zandt is fair, that creosote carbonate cuts short or aborts a large percentage, mitigates almost all the rest, and in a small percentage of pneumonia there is no result. Certainly if the early appearance of crisis is any indication of the value of the treatment, this remedy merits a careful trial.

The author's own experience covers thirty-three patients, with no deaths. The disease terminated by lysis in nine, by crisis in twenty-four. Crisis occurred on the sixth day in one, seventh in two, eighth in nine, ninth in six, tenth in three, eleventh in two, and on the twelfth day in one patient. In two patients above the age of seventy, lysis occurred. Of three alcoholic subjects, in two lysis and in one crisis was noted. Two instances of double pneumonia both terminated in lysis, in one the infection of the two lobes was contemporaneous, in the other by sequence. Aside from the remarkable reduction of mortality, the increased percentage in which crisis is noted is suggestive as to the true significance of the phenomenon, and is an argument for the value of the remedy in nullifying bacterial activity and its results.

Dr. Wilcox further states that under this method of treatment tympanites is rare and the necessity for calomel greatly reduced, and concludes as follows:

The present status of the treatment of pneumonia is especially satisfactory when results are considered. To summarize: (1) Continuous persistent and generous administration of creosote carbonate. (2) Careful adjustment of mechanical conditions. (3) Thorough evacuation of toxins by all possible ways. (4) Temporary supplemental oxygen by inhalation. (5) Liquid diet until physical signs disappear.

To be avoided are antipyretics, opiates, ill-advised external applications, and slowly-acting heart remedies, as digitalis.

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### Dietetic Treatment of Tuberculosis.

W. H. Porter (*American Medicine*, Sept. 20, 1902) says that the natural deductions to be drawn from a study of the dietetics of tuberculosis are:

1. That a predisposition to tuberculosis is inherited.

2. That tuberculosis *per se* is never inherited, but is always acquired after birth.

3. The disease can be fed into or fed out of the human species.

4. The chief problem in the dietetic treatment of tuberculosis is first to overcome the general malnutrition, and next to establish a higher grade of local nutrition at the infected focuses.

5. The composition, digestibility, and percentage absorption of the various foodstuffs and the oxygenating capacity of the system are accurately known.

6. By this knowledge the quantity of food taken can be accurately adjusted, so that the full heat production and constructive utilization of the proteids is secured.

7. The oxygenating and carbon dioxide excreting powers of the system must not be exceeded if the best results are to be secured.

8. By following these accurate laws systematically a perfect diet can be arranged, and the abnormal and pathologic conditions can be changed to the normal, physiologically speaking.

9. The most difficult problem to contend with in the dietetic management of tuberculosis is the loss of appetite and the inability on the part of the system to digest and utilize perfectly a sufficient quantity of proteid material to maintain life, and at the same time repair the damage already wrought.

10. When this is accomplished a large percentage of tuberculous patients are rapidly and permanently cured, more so than by medicinal treatment or simple climatic changes.

11. A universal adherence to these laws through a century might result in a complete eradication of tuberculosis from the human species.

### Buttermilk as an Infant Food.

Adolph Boginsky (*British Medical Journal*, Sept. 6, 1902) says that (1) buttermilk as prepared and recommended by the Dutch physicians is a good food for acutely and chronically sick infants; (2) prepared buttermilk is well borne soon after attacks of acute dyspepsia and summer diarrhea; (3) in chronic diarrhea and chronic enteritis cases it may be looked upon as a life-saving preparation; (4) it is to be hoped that more observations be made upon its use as an actual food for healthy infants; (5) in the cases observed for a long time, the author has never seen disturbances of nutrition such as rachitis or scorbutus develop.

## OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,
Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

### Ocular Alterations in Xeroderma Pigmentosum.

Monthus (*Journal of the American Medical Association,* Sept. 20, 1902) mentions that about a hundred cases of xeroderma pigmentosum are on record. The frequency of the development of the lesions in the region of the eye attracts attention. These ocular lesions range from pigmented patches, dystrophic lesions, and telangiectasia to benign and malignant tumors. The first manifestations of the affection may appear in the region of the eye, and malignant evolution is particularly rapid in this locality. In two cases recently observed by him, the xerodermic alterations included tumors of the lid and cornea, ectropion, and xerodermic lesions of the conjunctiva in one case, and in the other both lids were affected, with pannus of the right eye and epithelial tumor in the other. The patients were sisters, fifteen and thirteen years old respectively. He describes both cases in detail. Treatment can be only prophylactic and symptomatic. Prompt and total extirpation is indicated in cases of neoplasm of the lid, conjunctiva, or cornea. Panas has demonstrated that ablation of the tumor and cauterization of its point of implantation will usually suffice, without necessity for enucleation of the eyeball.

### The Treatment of Corneal Infiltrations by Iodine-Vasogen.

Iodine-vasogen is, according to A. Duane (*Archives of Ophthalmology,* September, 1902), a valuable application in infiltrated and spreading ulcers of the cornea, whether associated with purulent conjunctival secretion or not. It is particularly indicated in those cases in which the galvanocautery is contraindicated by the situation of the infiltrate.

It rarely causes pain, if not applied in excess, and never causes any unpleasant reaction or untoward effects.

Preliminary anesthetization of the cornea with cocaine is rarely required, and in general is better omitted.

The application is best made every other day until the infiltrate begins to shrink decidedly, and then should be made every three or four days until the infiltrate disappears.

### Value of Strychnine in Treatment of Progressive Deafness.

Berezovski (K voprosu o pat. i therapii narostayushtchei glukhoty.) announces that the subcutaneous administration of strychnine practically cured two patients with progressive deafness and annoying subjective sounds in the ears. It also attenuated or completely banished the sounds in seventeen out of twenty-two other cases of various forms of aural affections. He remarks that he has never known in his own experience, nor heard from others, nor been able to find in literature, a single instance of complete cure of progressive deafness by any means. Consequently he believes that the cure of the two cases he reports, even if they were only two out of 2000 instead of being two out of two, should suggest further trials in this line. He has found strychnine useful also in amblyopia and other affections of the eyes. He injects the strychnine in the usual hypodermic dose. Other methods of administration proved ineffectual.—*Journal of the American Medical Association.*

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## DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Lecturer on Dermatology, Detroit College of Medicine.

### Radiotherapy—A Resume to Date.

At the seventeenth annual meeting of the British Medical Association (Dermatological Section), reported in the *British Journal of Dermatology* for September, 1902, Dr. Freund read a paper on radiotherapy and phototherapy, from which the following abstracts are taken:

Definitions: All radiant phenomena have the same physical basis.

Gradation of one class of ethereal vibrations into another of different wave-length: no sharp boundary between the two.

Physical properties of rays used in dermatology: they possess chemical, fluorescent, and electrical properties.

The effect of rays on the human body varies, like that of chemical agents, with the dosage. This effect ranges from mere stimulation to actual destruction of tissue.

Used in weak doses the rays favor organic processes—*e.g.*, growth of hair and production of pigment. In stronger doses they lower vitality, produce inflammatory reaction, or actual necrosis.

Radiant heat, light, electricity, and *x*-rays similarly influence cell-life.

Clinical effects of radiotherapy: (*a*) The physiological effects are in direct proportion to the intensity of the raying, but in inverse proportion to the wave-lengths. (*b*) The reactions appear after a latent interval, the length of which is also inversely proportional to the wave-lengths and intensity of the raying. (*c*) The physiological action of the rays is long persisting. (*d*) Those rays which have the property of exciting fluorescence are also physiologically the most powerful.

Skin-diseases suitable for *x*-ray treatment: Clinically, one group is separated from the rest, its essential features being the removal of hair—*e.g.*, ringworm, favus, sycosis, hypertrichosis.

The depilatory properties of the *x*-ray tube are due to direct destructive action or to alteration in the blood-supply of the follicles.

*X*-rays possess no bactericidal properties.

In the remaining group cell-infiltration and proliferation are essentials—*e.g.*, lupus, epithelioma, in which the destructive influence of the rays is beneficial.

The rays also exert a powerful influence in promoting the formation of connective tissue and cicatrices. They may act also directly on the specific poison.

*X*-raying has a more penetrative effect than can be obtained by the use of chemicals.

The rays in weak doses stimulate, and in strong destroy hair-growths.

Clinical effects of *x*-raying: (1) Intumescence of the skin; (2) mild erythema; (3) pigment changes; (4) loosening of hairs; (5) subjective phenomena—itching, burning, etc.

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### Blastomycetic and Protozoic Dermatitis.

Before the Dermatological Section of the British Medical Association at its seventeenth annual meeting (reported in the *British Journal of Dermatology* for September, 1902) Dr. T. Caspar Gilchrist, of Johns Hopkins University, presented a magnificent lantern demonstration of cases and microscopic specimens of blastomycetic and protozoic dermatitis.

The slides exhibited showed every known phase of lesion both clinically and microscopically. In the blastomycetic specimens the fungi were shown as simple organisms and also as budding forms, whereas the protozoic specimens showed single organisms, sporulating forms, and burst capsules from which these spores had escaped.

Professor Gilchrist pointed out that these sporulating forms

grew as mycelial forms outside the body, and he therefore maintained that they were really blastomycetes of a somewhat different family. The clinical history of both forms showed a great similarity. The initial lesion appeared to be a papule which developed into a pustule and burst. The burst pustule did not heal, but developed into a verrucose ulcerating patch with a defined, pinkish, soft edge, containing numerous epidermic abscesses (Hyde and Montgomery). The blastomycetic form in every case but one remained as a superficial disease lasting two to twenty years, and causing but little pain unless staphylomycosis supervened. The protozoic form on the other hand generalized internally, and produced death from a pneumonia not unlike tuberculosis. This difference was ascribed to the small size of the spores, allowing them to reach the blood-stream by way of the lymphatics. Pure cultures of both organisms had been obtained, and in both cases intravenous injection caused the death of the animal from pseudotuberculosis of the lung.

The histological characters of the lesions in the skin of man strongly resembled those of tuberculosis. There was a marked hypertrophy of the epidermis, which was full of miliary abscesses containing the organism. Below the epidermis was a dense infiltration of plasma and lymphoid cells, among which were giant cells occasionally containing the organisms in their protoplasms.

Potassium iodide was, as is now well known, efficacious in causing the healing of the lesions and the cure of the disease. The number of reported cases up to the present was thirty-three, all of which were or had been resident in the western hemisphere.

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## GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,
Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

### Ovarian Pregnancy.

Futh (*Monatsh. f. Geb. u. Gyn.*, May, 1902) recently read notes, before the Leipzig Obstetrical Society, of a case of ovarian pregnancy. The right ovary was continuous with the sac, whilst the fetus lay enveloped in omentum and was converted into a lithopedion. The pregnancy seemed to have passed the fifth month. Half a year before the patient came under observation she had been delivered spontaneously. The abnormal pregnancy had occurred about three years previously. The condition of the Fallopian tubes is not described in the report, which says

nothing as to whether the author considered the gestation to be primary or secondary.

### Ovum on Seventh Day of Pregnancy.

Frankel (*Centralbl. f. Gynäk.*, No. 22, 1902) demonstrated at the February meeting of the Munich Obstetrical Society a true ovum expelled on the seventh day after an overdue period. The patient was subject to habitual abortion. The decidua was expelled in one piece as a precise cast of the uterine cavity. On its lower part, not far from where the os internum would have lain before its attachment, was a conspicuous thickening, from the inner surface of which projected a transparent bulla of the size of a pin's head clearly representing the ovum. A careful microscopical examination of the specimen is to be undertaken.

## NEUROLOGY.

UNDER THE DIRECTION OF CHARLES W. HITCHCOCK, M.D.,
Attending Neurologist to Harper Hospital.

### Etiology of Paresis.

In the April number of the *American Journal of Insanity* Dr. Arthur W. Hurd writes upon the causes of paresis. The relatively small number of alleged causes of paresis is noted, and all are carefully considered. While he is unwilling to accept the Krafft-Ebing dictum of "No syphilis, no paresis," he concludes that directly or indirectly syphilis is the most potent cause of paresis. In summing up he considers it justifiable in the present state of our knowledge to conclude:

That syphilis is the most common factor in the production of paresis.

That it may cause it directly—an exciting cause.

That it may cause it indirectly by bringing about such a devitalization of the system generally as to render other influences operative—a predisposing cause.

That it is not usually the sole cause but that there is associated with it the deleterious effect of mental stress and overexcitement, dissipation, alcoholism, and heredity.

That in a certain relatively small number of cases mental stress, worry, or overwork may be the sole ascertainable cause.

That traumatism may also be the cause in a still smaller proportion of cases, but that in many of them it acts as a developing or ripening agent of an incipient paresis in a syphilitic subject.

# THE MEDICAL AGE

Vol. XX. DETROIT, OCTOBER 25, 1902. No. 20

## ORIGINAL CONTRIBUTIONS.

### TUBAL PREGNANCY; RUPTURE AT AN EARLY PERIOD OF GESTATION.

BY GRANT G. SPEER, M.D.,

Former Assistant Physician to the Northern Michigan Asylum for the Insane; Attending Physician and Surgeon to Mercy Hospital, Manistee, Mich.

P. G. B——, aged thirty-eight years, American, married; seven children, oldest fifteen years, youngest eight years, four living, three dead; three miscarriages have taken place, all since the birth of the youngest child, the last September 13, 1900. Twelve years ago she gave premature birth to a child, due to a fall, since which time she has had womb trouble, which has been somewhat relieved by treatment during the past year. Menstruated normally the last time early in August, and what was supposed to be a normal menstruation began September 6, and was prolonged to September 26, when she was taken with a severe pain, but of a nature to indicate a foreign body to be expelled from the uterus rather than a rupture and pelvic hemorrhage. Uterus slightly prolapsed and tender, and a thickening and tenderness in the region of the right ovary. On the morning of the second day she was curetted without an anesthetic, and a considerable amount of loosely organized tissue was removed. This and other usually sufficient remedies appeared to have little effect on the cause of the trouble: the pain and metrorrhagia continued, and the thickening at the right ovary increased to a large boggy mass that completely filled the culde sac of Douglas. With the formation of this mass there was lifted against the abdominal wall a hard tumor that could be distinctly palpated. The temperature during the illness had risen as high as 104° F., and sepsis was added to the already alarming symptoms.

She was operated upon October 13, the right tube and ovary

being removed and a large quantity of loose blood taken from the pelvis. The amputated tube was not ruptured, the hemorrhage having taken place through the fimbriated extremity. It measured 3½ inches in length and 5 inches in circumference, and contained a well formed placenta firmly fastened on one side. The patient not only made a good recovery, but with the removal of the right tube the cause of her ill health was nearly eliminated, and she is now in better health than at any time during the past twelve years.

The above is a brief summary of a case, reported at length, with cuts of the specimen, in the December *Leucocyte Alumni,* organ of the Detroit College of Medicine.

Ectopic pregnancy has long been known, the literature is extensive, and the symptoms classical. But in most of the cases given, and apparently in those from which the symptoms are derived, the period of gestation is longer than in the one reported, and the symptoms in nearly all essential points are different. This case was reported largely to present an unusual condition to the curious, and incidentally round out the apparently full statistics, little thinking to soon meet the second case, so nearly parallel that the symptoms might be interchangeable and the two form a class by themselves, the period of gestation in either case being all but definite.

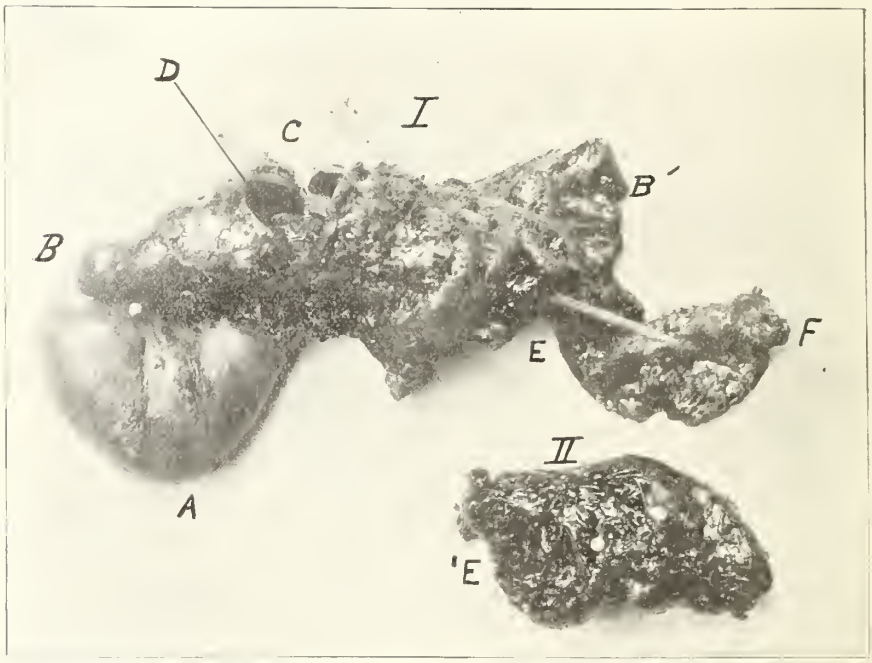
F. G. S——, twenty-four years of age, married, born in the United States of French-Canadian parents; large, plump, robust, with fine color, the picture of health, and previous to the birth of her child had never been sick, except with measles when a child and scarlet fever after marriage. All vegetative functions were normal and menses regular, without pain or discomfort. Her child was born August 7, 1901, after a moderately difficult but not unusual labor. The first menstruation occurred in March, normal in every way. April 2 she had inflammation of the breast, which lasted but a few days. In about four weeks (April 25) she began to menstruate in great pain and aching, but no more severe or different than many women who suffer from painful menstruation from various causes, such as cold, congestion, constricted os, or displaced uterus, and no examination was attempted. A hypodermic injection of morphine sulphate and atropine was given, followed by suppositories of morphine and belladonna to control pain, and elix. cramp bark co. to establish the flow. She was visited the next morning and found to be better. She was not seen again until May 5. She had been fairly comfortable until this time, but had flowed continually, and the amount of blood was still excessive. She was again

in great pain, and examination showed a tenderness externally over the right ovary. Internally the uterus was anteflexed, and there was a tenderness and thickening in the region of the right ovary, but there was absolutely no well defined tumor to be made out internally nor externally. A hypodermic injection followed by suppositories was again resorted to, and fluid extract of ergot administered frequently in small quantities; tampons placed firmly in the vagina were used to control hemorrhage. The latter were discontinued on account of the great discomfort. On May 7 the uterus was curetted, and practically no tissue was brought away by the instrument, and scarcely any roughening of the uterine cavity was found. The thickening in the region of the right ovary increased, and a boggy tumor gradually formed in the cul-de-sac of Douglas, extending from behind the uterus more to the left than the right.

The diagnosis of ectopic pregnancy was firmly established, but the wishes of the family were strongly opposed to operation, and, indeed, from financial and other reasons it was very desirable, if possible, that it be avoided. The flow from the os uteri continued, and there was much pain and tenderness over the abdomen until May 12, when these symptoms abated to an appreciable extent and the boggy mass back of the uterus began to grow smaller. During her illness her temperature but once reached 100° F., and this rise quickly disappeared with the administration of a cathartic and a short course of quinine sulphate. There had been constipation and loss of appetite, but her color had been good, and at no time had there been fainting, blanching, or pinched countenance. All symptoms continued to improve until the 15th, when she felt able to go to the dinner table and ate heartily—among other things, I found after operation, there had been sauerkraut. While eating the pain began anew, and within the hour it was excruciating. Though her cheeks were still flushed she was white about the mouth, and the nose looked thin and pointed. The mass posterior to the uterus had increased to a larger size than ever before, and I determined to operate at once. In this I was supported by counsel selected by the family.

The patient was removed with all expediency to Mercy Hospital, and prepared for operation at 5 P.M. I was assisted by two colleagues of wide and successful experience, one in obstetrics and the other in abdominal surgery. The abdomen was opened in the median line in the usual manner, and as the peritoneum was opened there was a spurt of fresh blood, that ceased as the opening was enlarged. Underneath was a mass of dark clotted blood not as large as in the first case reported. The

source of the hemorrhage was found to be in the right Fallopian tube, which with the ovary was removed, as was also the left tube and ovary, because of adhesions. Every part of the operation was carried on under the most rigid aseptic precautions. Even under chloroform the abdominal muscles were rigid, and the stumps of the tubes and ovaries were much shortened, making it difficult to properly isolate the bowels from the stagnant blood. This blood so obscured the field that the appearance of the peritoneum could not be properly judged, but it is fair to infer from pulse and countenance that peritonitis had already




Tubal pregnancy with rupture of Fallopian tube. Fig. I: *A*, nearly normal ovary; *B*, $B^1$, Fallopian tube; *C*, rent in upper border of Fallopian tube; *D*, outer edge of the small placenta firmly attached to the walls of the tube; *E*, fimbriated extremity surrounded by a facet that corresponds to the facet $E^1$ in Fig. II; *C* to *E*, a strip of wood passing from rent to fimbriated extremity through the tube. Fig. II and *F*, blood-clots formed gradually before the rupture of the tube by hemorrhage through the fimbriated extremity.

begun. Hemorrhage from the right stump gave trouble, and the bleeding point was grasped by a forceps. A glass drainage-tube was placed in the cul-de-sac of Douglas and the two bound together. The ligatures used for the stumps were of kangaroo tendon, and the abdomen was closed by through-and-through silkworm-gut. The patient was placed in bed and given normal saline injections per rectum. She recovered from the chloroform

without much shock and was apparently in fine condition for the first twenty-four hours, when she began to feel badly and had eructations. This irritation became more frequent and severe, the abdomen became rigid and bloated, and she died of peritonitis about 2 A.M. on May 18.

The right Fallopian tube, the seat of the trouble causing death, was enlarged to four or five times its normal size, and was rough and covered by adhesive shreds. At the junction of the inner and middle third was a rent that about half divided it into two parts. This rent led to a cavity that would accommodate a sphere of three-fourths inch in diameter. A mass taken from the abdomen supposed to be a placenta was found to be a blood clot, which presented a facet exactly corresponding to one surrounding the fimbriated extremity, and without doubt had gradually formed at that point. The only thing corresponding to a placenta was a roseate tubercle that in the alcoholized specimen measured three-fourths by seven-eighths inch, situated to the left—that is, just internal to the rent, one edge of which can be made out by close observation of the accompanying cut.

Through the kindness of Dr. H. D. Robinson, who rendered me such efficient assistance in the first of these cases, I am enabled to report a third case which occurred in his practice that I did not see:

M. Z——, married, aged twenty-eight, Irish descent; has borne four children, all living, the youngest born February 25, 1900. No miscarriages. Patient in fine health, vegetative functions normal, menstruation regular and painless, the last normal period occurring April 10 with no pain. Eight days before the next menstrual period was expected she had excruciating pain, vomiting, and shock, with fainting. In spite of hypodermic injections the pain lasted five hours. Local examination showed slight thickening with much tenderness in the region of left ovary. Uterus and other pelvic organs were normal. There was pain on defecation, and the passages were thin, with foul odor. A diagnosis of ectopic pregnancy with bad prognosis was given. The pain gradually decreased under treatment, and by the 7th had disappeared, and visits discontinued. Normal menstruation appeared on the 10th, but was shorter than usual, lasting about three days. I was called again on the 19th, because she was not feeling quite well. There was still a thickening about the left ovary, but the tenderness was about gone. Called again on the 21st, to find her sitting up and feeling very comfortable. The next visit was made on June 3, when she was suffering from pain, less severe than at first, with very little

shock. I called each day, to find her comfortable but confined to bed, and the condition of the pelvic organs remained unchanged. On the morning of June 8 I found her more comfortable than usual, and in the afternoon she sat up. There had been no fever. The diagnosis of ectopic pregnancy was insisted upon, and a statement that without an operation death would ensue was repeatedly made, and the operation as persistently refused. At 4 P.M. I was called, to find her suffering severe pain and shock. Pains continued even under full doses of morphine and atropine until 10 P.M., when the pains gradually subsided, but shock continued, causing death at 4 A.M., June 9. Local examination about 6 P.M., June 8, revealed much tenderness in the left side, and a large boggy mass filled the cul-de-sac of Douglas. A post-mortem examination was unfortunately refused.

In the full report of the first case it was pointed out how much it resembled a pelvic inflammation arising from sepsis, which in the previous history, the condition of the uterus, pain and general discomfort, abdominal tenderness, thickening in the region of the ovary, and the formation of a boggy mass in the region of the uterus, with rise of temperature, formed a picture with which nearly all are familiar. But comparing these three cases, all occurring in the same city in a short period of time, we are enabled to classify a set of symptoms that are distinctive in character, nearly uniform in occurrence and severity, and when once encountered can scarcely fail of recognition.

Briefly stated in their order, there is a normal menstruation followed by an interval in which all signs of pregnancy are absent; the apearance of the second menstruation normal as to time and appearance of blood; prolonging of the menstrual period, except in the last case, in which it was shortened; tenderness and thickening in the region of the ovary affected, resembling closely a salpingitis that might or might not go on to suppuration; constipation and pain on defecation; difficulty in making out any definite tumor, which in the second and probably the last case was absent; spasmodic pain, continued abdominal soreness, and general physical discomfort, that followed the beginning of menstruation in the first case, accompanied it in the second, and preceded it in the third; absence of fainting, blanching, and shock to indicate an internal hemorrhage except in the third case; the gradual filling of the cul-de-sac of Douglas; and sepsis. This last symptom, in these cases, must be especially emphasized. By referring to the original report of the first case it will be seen how narrowly the patient escaped death from this cause before

operation, and which made the operation doubly hazardous. And in the second case, in view of the extreme care used in regard to the asepsis of patient, operators, instruments, and dressings, it is safe to say the peritonitis began at some time previous to the operation, and was set in full swing by the final bursting of the tube, which it is believed took place with the last attack of pain, and was accentuated by the hearty articles of food lying undigested in the bowels. The operation instead of hastening this process gave temporary relief. The symptoms in the third case, judged in the light of those of the first and second, would indicate that the first attack of pain occurred through hemorrhage taking place within the tube, causing too rapid dilatation, and to accommodate itself to the unusual strain the tube discharged the blood through the fimbriated extremity. Relieved for a time it became quiescent, until it became again necessary for the tube to relieve itself, which it continued to do through the fimbriated extremity until the burden became too great, and the tube burst, to scatter its tainted contents over the lower portion of the peritoneum, causing shock and death, in which cause sepsis was a most important factor.

The high death-rate in all forms of ectopic pregnancies indicates their serious nature. In no form of pelvic trouble is there a greater demand for an exact and complete diagnosis. Be the gestation of long standing, we may not have seen the case until the rupture has occurred, and we are forced to make a hasty operation to save the patient from an internal hemorrhage; and in such cases the death-rate must necessarily remain high. However, when the gestation is of short duration the danger lies in mistaking the ectopic pregnancy for one of the many forms of pelvic trouble which it may then resemble, and left to itself through such an error, or a mistaken conservative treatment, each delay lessens the chance of the patient's recovery. But given an early diagnosis, made with the certainty with which we make a diagnosis of appendicitis, and operated upon without hesitancy, we should bring the death-rate of these cases nearly to that of a simple ovariotomy.

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## A PECULIAR VOLVULUS OF THE COLON.

BY GEO. B. GESNER, M.D., MARSHALL, MICH.

June 20, 1902, at 8 P.M., L. H——, farmer, aged thirty-five, presented himself at my office for treatment for pain in the abdomen, colicky in character. Bowels had not moved for three days. He gave a history of these attacks of constipation accompanied

by pain in bowels since youth—all symptoms passing away in previous attacks on movement of his bowels.

On examination I found his temperature 98.4°, pulse 60, abdomen somewhat distended. No localized tender spot. Patient looked comparatively well. He had worked all day. I prescribed a cathartic and ordered a simple enema on his arrival home, a distance of ten miles into the country; also gave him a mixture containing small doses of chlor-anodyne, to be taken as required to relieve the pain.

The following morning I was sent for, and found patient much the same, no movement of the bowels having taken place. Temperature 98.4°, pulse 60. No apparent change in his condition. I used then, in turn, all the usual remedies per rectum to cause a movement of the bowels, but all failed.

Returned again in the evening. Found temperature 98.4°, pulse 60; abdomen more distended; pain not so severe. Tried enemas again, but without success.

I told the family that if there were no change by the following morning I would like a consultation, as I feared intestinal obstruction from some cause, and if so an operation would be necessary to save his life.

Next morning the temperature was normal, but pulse was 70. More tympanites, but no movement of bowels had occurred. Had a consultation with two other physicians, and decided that a surgical operation, a laparotomy, was the only thing to be done. Patient and family were much averse to operation, and wished to wait until the following day. Next morning I summoned Dr. A. J. Abbott, surgeon, of Albion, who came prepared to do a laparotomy.

After the doctor arrived, some time was consumed by the patient and his family in making up their minds to have the operation performed. They finally consented, and Dr. Abbott did a laparotomy. The distention was found to be mainly in the upper part of the abdominal cavity; the small intestine, which was otherwise healthy, was completely covered with lymph, and an evil-smelling sanious discharge in the peritoneal cavity was much in evidence. The bowel was punctured and the gas allowed to escape. The puncture was immediately closed by a Lembert suture.

A peculiar volvulus was discovered, viz., the sigmoid flexure of the colon was twisted about the hepatic flexure, so as to cut off the nourishment of the transverse and descending colon. After removing the gangrenous part, so short a stump of rectum was left that a Murphy button could not be applied. The distal

end was therefore ligated and returned, the proximal end brought out through the abdominal wound, and an artificial anus established. The gangrenous portion removed was over eighteen inches in length and as black as ink.

A few days previous to his attack the patient ate very heartily, for fun, at a barn-raising, and the efforts of the bowel to dispose of this excessive amount of food may have caused the volvulus.

The patient survived the operation, living nearly twelve hours after fully recovering consciousness.

The time occupied in doing this operation was a little over an hour.

## OBSTACLES TO A SATISFACTORY CLASSIFICATION OF DISEASE.

BY A. L. BENEDICT, A.M., M.D., BUFFALO, N. Y.

While, as a rule, the writer has endeavored to limit his articles to matters of practical medicine, in his own specialty, there are certain general problems connected with medical expression that are also important, and among these there are few that deserve so much attention as the nomenclature of disease. In the *Medical and Surgical Reporter* of March 10, 1893, the writer discussed in a cursory way the history of medical terminology according to etymology, and advocated an editorial board which should pass upon all proposed new terms, and thus obviate the discredit which attaches to the use of mongrel and otherwise linguistically incorrect words. A few reprints of this article are still on hand and will be sent to such as are interested, as long as the supply lasts. At a later date the writer may present, for criticism, a rough scheme of classification of diseases. At present he would like to arouse some discussion as to the many problems to be solved before any satisfactory plan can be carried out. The present article must be leniently judged, as a mere preliminary survey of a territory little known and filled with obstacles.

According to the old idea, which still survives and probably must continue in a limited way with regard to general, specific diseases, each symptom-complex was considered to be an entity, and it was sufficient to designate this symptom-complex by any convenient term, not necessarily indicating the relation of different diseases to one another. With recent advances in pathology and bacteriology, the older nomenclature has been found defective in two particulars—the inclusion under one term of

quite distinct processes, and the designation by entirely distinct terms of processes essentially identical. The former defect is well illustrated by the term pneumonia, and the latter by phthisis, lupus, scrofula, hip-joint disease, etc. In the attempt to classify and designate varieties of disease, without any general and well considered plan, much confusion has been caused. Frequently, a germ has been named according to the gross appearances of the disease, so that the corresponding adjective may have either a bacteriologic or a histologic meaning. Thus, we speak of a tubercular pneumonia and a tubercular syphilide in very inconsistent but understandable senses. When the term diphtheritic is employed, nothing but a foot-note or a knowledge of the personal views of the writer will enable us to understand him.

The gradual development of pathologic knowledge has also led to some peculiar expressions and to many hazy definitions. For instance, the terms "croupous" and "lobar" pneumonia are commonly considered as synonymous, but there are certainly catarrhal pneumonias which are lobar, so far as one can determine by physical signs, while there have been described two distinct bacteria which cause pneumonia, one just as typic as the other. Taking the term croupous, in its general sense, we are at once met with the problem as to just what this general sense is. Shall we use it to describe any coagulation necrosis of a membrane; shall we limit it to the respiratory mucous membranes; shall we include under this term an acute inflammation and necrosis, due, for instance, to steam or some chemic corrosive, or shall we exclude non-bacterial inflammations; shall we use it as meaning any bacterial coagulation necrosis, or only those due to "diphtheria" and "pneumonia," or to the latter alone? Is there a true pseudomembranous croup—we must ask pardon for the apparent Hibernianism—other than diphtheritic? If not, we see how far the term "croupous" has wandered from its original meaning.

Whether a word should be used in the bacteriologic or the histologic sense must be determined by circumstances, but the main point is that every technical medical word should have an exact meaning and should always be used in the same sense, though obviously there is as great need of general as of special terms. The terms "tubercular" and "tuberculous" should always refer to the tubercle bacillus, and such expressions as "tubercular syphilide" should be replaced by some other, as "nodular." In regard to pneumonia, there is argument on both sides. The term has been employed to designate almost every condition located between the visceral pleura and the large air-

passages that causes dulness on percussion. It seems to the writer that so broad a meaning as this, without the possibility of assigning any one essential element in common, is worse than useless. Analogously, the term cirrhosis as applied to the liver is confusing, because it leads to the mental association of processes that ought to be sharply distinguished. The term "pneumonitis" might well supplant "pneumonia" with reference to the local inflammatory condition, and this would leave the latter term to be used to designate an infectious process. But if this definition be accepted, we can no longer laugh at the layman who speaks of "pneumonia of the lungs," for this apparent tautology becomes necessary to distinguish from a pneumonia of the meninges, which in the latter sense is well demonstrated.

As an example of the need of general terms may be mentioned the word "specific." By a euphemism this word is usually employed as an entirely superfluous synonym of syphilitic. It is impossible to employ a term for any length of time simply to deceive the laity. As soon as it achieves an accepted secondary meaning, this meaning will be learned. The laity already know what "specific" means, and it is only a matter of a few years before they will be able to translate "luetic." Let us, then, restore the word specific to its proper and needed significance of a definite pathologic process, and decide whether or not we wish to include the added significance of a process due to a microörganism. Perhaps, however, it would be well to coin the term "nosogenic," to stand opposite "pyogenic," as a subdivision of the general term "pathogenic," and then we could use the term specific as a more general inclusive term than nosogenic.

Another very important point in nomenclature is whether we shall limit such terms as pneumonic, diphtheritic, typhoid, etc., to one particular germ or to two or more germs capable of producing clinically indistinguishable processes. Just at present we are in the position of the French priest and the Anglican rector who found themselves confused as to the term "catholic." Neither wished to give offense to the other, nor to yield in a point that involved a principle, and finally the Frenchman said, "I tell you vat ve do; ve vill say 'your catolic church' and 'my catolic church.'" So, in medicine, while it is easy for one authority or another to be dogmatic, it is often necessary to make oneself plain by such awkward expressions as pneumococcic, pneumonia, Klebs-Loeffler diphtheria, bacillary dysentery, amebic dysentery, paratyphoid, etc. The writer would suggest borrowing from chemistry the prefix "ortho-," which meant in Greek, as in English slang, "straight," in the special sense of genuine. It would

then be simply a matter of statistics as to which bacterium would be connected with the expression "ortho-pneumonia," etc. It is already suggested by certain lines of experimental study that we may even need to distinguish "ortho-tuberculosis" from varieties due to avian, bovine, and other sources. Quite a distinct designation would be required for streptococcic diphtheria, but for tuberculosis, due apparently to mere varieties of one species of bacillus, the Greek letters might be employed to indicate subdivisions, as in chemistry.

The term acute, infectious, cerebrospinal meningitis, is an excellent example of the need of a reform in nomenclature. The disease meant is not fully conceded to have a specific entity, many pathologists holding that what is meant is often pneumococcic infection, and that the diplococcus intracellularis meningitidis has not been established, or at least not as a specific cause. Granting that we have a specific condition to name, it is not always markedly acute, it is no more infectious, and by no means so common as a pneumococcic invasion of the meninges, and there is no reason to stipulate that it is always both cerebral and spinal in its localization. Nor, without danger of confusion with gonococcic inflammation of the meninges, could we designate this disease as "diplococcic," while the expression "intercellular" would be histologically misleading.

A satisfactory nomenclature of disease should definitely and briefly indicate (1) localization, (2) pathologic nature, (3) the exact microörganism involved, if any, and (4) in a general way the intensity and duration of the disease. In each of these particulars there should be one term and one only for each idea conveyed. For example, an intestinal disease should not be called an enteritis in one instance and a cholera in another; a process should not be called a catarrh in one case, a blennorrhea in another, and an *-itis* in a third; the results of the tubercle bacillus should not be designated as tuberculosis in one place and as lupus in another; acute should not be limited to corrosion in speaking of the esophagus and stomach, unless similarly limited with regard to the other mucous membranes. We should also settle once for all whether a chronic inflammation, so-called, is really to be included under this general term and to be designated as an *-itis*, or whether, as claimed by many, it is essentially a degeneration.

The term "inflammation" requires some further definition. As at present used, it is of broad significance and probably is too inclusive. It has been suggested to limit its application to septic processes, but for such we already have adequate means

of designation, and if anything it would be better to limit "inflammatory" to non-bacterial conditions. In this latter sense, inflammations of vague cause, such as taking cold, should be named primarily according to location, while general infections should be named according to pathologic and bacteriologic manifestations, the location being designated by a secondary term.

While, for ordinary purposes, it suffices to say a deer or an oak, or consumption, none of these names are adequate for scientific purposes. It is at present impossible, and it may remain so, to classify diseases according to genera and species, even in a figurative sense, but some systematic method must be looked forward to.

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ACCORDING to the annual report of the surgeon-general of the army, the condition of the troops is gradually improving. For the year 1901 there was considerably less disease, injury, and mortality as compared with the rates for the preceding year. The death-rate from all causes is reported to be 5.29 per 1000 men in Cuba; 6.90 in the United States; 7.81 in Porto Rico; and 17.96 in the Pacific islands and China. For the whole army, with a mean strength of 92,491 men, there were reported during the year 35,180 cases of malarial diseases, 28,918 cases of intestinal diseases, 17,736 cases of wounds and injury, 13,911 cases of venereal disease, 2018 cases of alcoholism, 1805 cases of fever which were undetermined, 594 cases of typhoid fever, 452 cases of pulmonary tuberculosis. There have been 34 deaths from cholera reported from the Philippines since July 1, and 13 deaths from cholera morbus.

THE question of the etiology of rabies is likely, according to the *Medical Record,* to be made the subject of a judicial inquiry, if the suit of a Niagara Falls man against a chemical company ever comes to trial. A man of that town has brought suit against the Acker Process Company to recover $25,000 damages for the death of a son by hydrophobia. The plaintiff alleges that the dog that bit his son went mad because it ran through a pool of waste chemicals thrown out by the defendant company, which is a manufacturer of caustic soda. The company throws its waste material on unoccupied lands. The rains spread the waste, and it has been said that a number of dogs have been burned severely by running through it. This, no doubt, makes the dogs "mad," but is hardly sufficient of itself to drive them rabid.

# THE MEDICAL AGE.

**A Semi-Monthly Journal of Medicine.**

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich.

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## EDITORIAL ARTICLES.

### THE SIGNS OF THE TIMES.

The action of the faculty of a well known medical college in Cincinnati, declaring it closed, is one of the interesting signs of the times. The college authorities state that this action was necessary on account of the recent State enactment making the entrance examinations to medical colleges in Ohio very rigid. With this in force there came a marked falling off in attendance. Medical education has made such rapid progress in the past few years that the smaller medical colleges find it difficult to equip themselves with the necessary outfits to teach efficiently their students. In consequence of this students select the college which offers the greatest facilities both for laboratory and clinical work. The stand taken by the majority of the States, in requiring students to pass an examination after graduation before being allowed to enter upon practice, has also had its effect of deterring students who have not the necessary literary qualifications from entering upon the study of medicine.

The time is now past when a few medical men can obtain a charter from the State, elect themselves into professorships of their own choosing, and start a medical college with any hope of its being successful. It is not to be inferred that such medical schools failed to turn out many good men, for to-day some of our most prominent physicians and surgeons are graduates of schools of this class. They, however, would have succeeded despite the inferiority of the college from whence they graduated. The next few years will undoubtedly see the profession of this country upon a much higher plane both from the standpoints of literary culture and scientific equipment. The action of the majority of the States requiring graduates to take examinations before a State board before license is given to practice

will make a number of the smaller colleges in the country close their doors, but while limiting the quantity of graduates thrust upon the public, the quality will be greatly raised.

The education of the present-day physician has come to be a very expensive affair. Four or five years in college and another year in a general hospital means the outlay of considerable money. However, as people are constantly demanding what is best in other professions, so it will be in medicine. Year by year competition will become keener, and the public will learn that to look wise and say nothing does not constitute the sum total of all that is known of the medical art. The recent graduate, if he is to find the small amount of space which is said to always exist at the top, must not be handicapped in his attainment of this by poor and insufficient training.

## EDITORIAL NOTES.

### Balloon Ascensions for Anemics.

A rather novel therapeutic procedure has been brought forth by a Paris physician. Dr. Naugier, in a paper which he recently read before the Académie de Médecine, claimed that balloon ascensions had a marked effect in increasing the number of red blood-corpuscles in patients who were anemic, and that this condition will persist for nearly ten days after the ascension. Five such ascensions in the course of six or seven weeks, he said, are more beneficial to an anemic than a sojourn of three months in the mountains. The good effect begins to be felt almost immediately, and a lengthened stay in the air is of no value, and in the case of many is actually detrimental in causing irritation. Should Naugier's claims be substantiated, balloon ascensions will form a cheap and pleasant method of treatment, especially for those who are unable to afford a change of climate.

### A New Serum for Scarlet Fever.

From Germany comes the announcement of the discovery of a new serum for the treatment of scarlet fever. The discoverer, a physician in Vienna, reports that he has used it in a series of 400 cases with a mortality of but nine per cent. Should this serum prove as useful as it is claimed it will mark a distinct advance in the therapy of a disease which too often leaves in its train ills which make its victims defective for life.

# ITEMS AND NOTES.

THE success of ray therapy in certain skin diseases has led to its use in leprosy.

THE first Egyptian medical congress will convene at Cairo, December 19 to 23, 1902.

DR. CHAS. H. FRAZIER has been appointed dean of the University of Pennsylvania Medical School.

THE Mississippi Medical Association held its annual meeting at Kansas City on October 15, 16, and 17.

DR. T. TRUMPP, a German physician, has been appointed by the King of Siam chief of the medical department of his army.

SMALLPOX has made its appearance in the Faroe Islands. The governor has sent a letter to Copenhagen asking for immediate aid.

PROFESSOR LANNELONGUE, of Paris, has presented the Paris Académie de Médecine with $7600 for the endowment of a triennial prize.

YELLOW FEVER is reported to be epidemic in Orizaba, a city on the line of the Mexican railroad, between Vera Cruz and Mexico City.

AT Athens, Greece, a woman physician has been appointed prison physician. She is the first woman to receive an official post in that country.

W. H. WELCH, professor of pathology in the Johns Hopkins University, recently sailed for England to deliver the Huxley lectures at the Charing Cross Hospital.

THE annual meeting of the American academy of railroad surgeons was held at Kansas City, Missouri, October 2 and 3, under the presidency of J. F. Janus, Omaha, Neb.

SMALLPOX, as officially reported in the United States from June 28 to September 19, 1902, amounts to 7168 cases with 367 deaths. For the corresponding period in 1901 there were 9907 cases with 282 deaths.

Five hundred and thirty-two tons of cigarettes, made of Turkish tobacco, were exported from Egypt in 1901, says an exchange. Germany bought 122 tons of these, India took 49 tons, and Great Britain 47 tons.

Dr. Johannes Orth, professor of pathological anatomy at the University of Göttingen, succeeds the late Professor Virchow in the chair of pathological anatomy at the University of Berlin. Professor Orth was for many years Virchow's assistant.

The committee having in charge the fund raised to commemorate the eightieth birthday of Prof. Rudolf Virchow, announces, says an exchange, that after the payment of all expenses the sum of 53,652 marks remains for the Rudolf Virchow Foundation.

It is announced that Colonel Charles Smart, who has been ordered to the Philippines as chief surgeon of the division, will make a thorough investigation of the origin of the cholera bacillus with a view to provide for the adoption of permanent measures to check the recurring epidemics of cholera in the islands.

In a recent U. S. P. H. and M. H. report, Dr. J. O. Cobb, who investigated the disease called spotted fever, prevailing in the Bitter Root Valley, Mont., found that the disease was caused by the bite of a tick. These ticks are parasites upon the ground squirrel, and the spread of the disease has been traced to the section of the country infested with ground squirrels.

The Paris Académie des Beaux-Arts, says an exchange, recently conferred the Joest prize of $400 on Dr. Paul Ruber, member of the Académie de Médecine, for his great literary work, "L'Art et la Médecine." Extracts from this work have been published from time to time in the *Nouvelle Iconographie de la Salpêtrière,* with the corresponding wealth of illustrations.

A recent number of the *Zeitschrift für Social-Wissenschaft* contains an article by Prizing which states that the proportion of medical men to every 1000 inhabitants is, in Germany, 5.1; in Austria, 4.1; in Hungary, 2.8; in Italy, 6.3; in Switzerland, 6.1; in France, 3.9; in Spain, 7.1; in Belgium, 5.2; in England, 6.1; in Scotland, 7.7; in Ireland, 5.6; in Denmark, 6.4; in Norway, 5.3; in Sweden, 2.7; in Russia, 2.7; in Vienna, 13; Berlin, 1.41; Budapest, 1.64; Paris, 0.97; Brussels, 1.47; London, 1.28; and Madrid, 2.44.

It is reported that the commission appointed by the Public Health and Marine Hospital Service to study the epidemic of yellow fever at Vera Cruz has, says *American Medicine*, discovered the germ causing the disease. The germ is said to be an animal organism, and its character and habits have been definitely fixed. The germ found in the bodies of the victims of the disease is identical with that found in the mosquitoes, and the authorities have therefore adopted measures contemplating the extermination of the mosquitoes.

Surgeon Oliver D. Morton, U. S. Navy, says the *Journal of the American Medical Association*, has been authorized to accept a present tendered him by the Emperor of Germany. Former recipients of honors were Assistant-Surgeon William J. Wilson, U. S. Army, a decoration from the Khedive of Egypt, for gallantry in battle; Surgeon-General Rufus Tryon, U. S. Navy, a medal from the government of Venezuela; and the late medical inspector, George Wood, U. S. Navy, a decoration from the Queen of Hawaii.

President Butler, of Columbia University, says *American Medicine*, is seeking to establish a reciprocal system of international fellowships with France in order to encourage students of each country to pass a portion of their period of advanced study in the other. Two annual fellowships of the value of $1200 each are proposed for Columbia University and for one of the French universities. They will be open to graduate students only, those in law and medicine being permitted to compete for the fellowships on equal terms with those who have taken the degree in arts.

The official institute for the production of serums has just, according to the *Journal of the American Medical Association*, been dedicated at Copenhagen with much ceremony. The laboratory for medical bacteriology, as the mother institution, issued a fine Festschrift of 300 pages on the occasion, which contains among other articles a work on the chemical relations in hemolysis, from the pens of Professors Arrhenius and Madsen. Among the scientists present at the ceremonies were Munter from Buffalo, Retzius and Selander from Sweden, Hansen and Holst from Norway, Heymanns from Belgium, and several from England. The institute has fine arrangements for the horses, goats, guinea-pigs, etc., and is even provided with a pond for frogs. Titles were conferred by the Danish government on Salomonsen, director of the institute, and on Madsen.

THE international congress on tuberculosis was convened at Berlin, October 22 to 26. A careful investigation was made of various establishments where this disease is treated. The subjects discussed were as follows: (1) Position of governments with regard to the prevention of tuberculosis; (2) obligation to give information to the police; (3) organization of dispensaries; (4) the task of schools with regard to the prevention of tuberculosis; (5) precautions against the dangers of milk; (6) tuberculosis during infancy; (7) protection of labor and prevention of tuberculosis; (8) classification and different modes of accommodating the tuberculous.

AN ingenious Russian official, in command of a Cossack station near the Caspian Sea, has invented a method of sex control which threatens to rival that of the late Professor Schenck. Being anxious that his district should make a good showing in the matter of boy babies, this consistent underling of the most paternal of governments has decreed that henceforth none but male children shall be generated in the country under his command. In order to make this law effective, he has ordered that the father of every girl baby born in the district shall be punished with fifty lashes with the knout. The veracious correspondent who sent this story to a London paper adds that already several men have received their fifty strokes for failure to comply with the law.—*Medical Record.*

IN reports to the War Department the health authorities of Manila, according to the *New York Medical Journal,* attribute the spread of cholera largely to the eating of raw shell-fish by the natives. Tondo Beach, one of the foulest spots in the city, is where the fish flourish. The board of health has abolished the practice, and a strong guard patrols the spot day and night. Although the disease is still on the increase, the authorities feel highly gratified over the coöperation of the natives in efforts to eradicate the germs. Chloride of lime by the barrel is being spread about the city, and the health department offices are crowded daily by natives with their baskets, in which to carry home the disinfectant. A record of fifteen deaths in one block is thought to have finally aroused them from their formerly indifferent attitude. The Tondo region is the hotbed of the epidemic. This has been because of the great number of creeks, by means of which the "river rats" had heretofore been smuggling in victims or carrying out the dead to prevent quicklime burial. The total number of deaths reported throughout the province has now reached 10,000.

# NEW PUBLICATIONS.

## GENERAL PARESIS.

This book is the light which shines from the beacon of an experience of twenty-five years, to light the path of the general practitioner to a better knowledge of this disease, the importance of which is continually forced upon us from its increasing frequency and changing type.

Successive chapters discuss the various stages of the disease-process and its varieties, and several chapters are given to its particular symptomatology.

Different diagnosis, etiology, prognosis, remission, duration, pathology, treatment, are also discussed. The author cites many illustrative cases from his own and others' experience, and quotes from many authorities. The book ought certainly to be helpful in disseminating a better knowledge of this interesting if fatal disease, and is worthy of a place in the library of the general practitioner.

General Paresis, Practical and Clinical. By Robert Cowland Chase, A.M., M.D., Physician-in-chief Friends' Asylum for the Insane of Philadelphia. Price, $1.75. Philadelphia: P. Blakiston's Son & Co., 1902.

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## TYPHOID FEVER.

This little volume, appearing at this time of the year, when typhoid fever is so prevalent, will be found of benefit to the general practitioner. While the author has nothing new to present in regard to this disease, he has written in a very concise manner in regard to the history, pathology, symptomatology, diagnosis, and prognosis. The chapter devoted to treatment is an eminently practical one, and the course outlined by the author is one that may be safely followed.

Typhoid Fever. By J. T. Moore, M.D., M.C.P.S., Professor of Theory and Practice of Medicine, Medical Department of Hamline University, Minneapolis, Minn. Pages 159; price, $1 net. Chicago: G. P. Engelhard & Co., 1902.

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## SKIN, VENEREAL, NERVOUS, AND MENTAL DISEASES.

The tenth number of the Practical Medicine Series of Year-books includes a *résumé* of all the recent work in these different branches, under the joint editorship of W. L. Baum and Hugh T. Patrick. The editors have produced a little volume which briefly sets forth the salient features of these diseases. This number will prove a very satisfactory one to the physician who has not the time to consult larger and more elaborate works on these subjects.

The Practical Medicine Series of Year-books. Volume X. Chicago, Ill.: The Year-book Publishers.

# THE PROGRESS OF MEDICAL SCIENCE.

## SURGERY.

### Minimal Anesthesia for Minor Surgical Operations.

Riedel (*British Medical Journal,* Sept. 20, 1902) thinks that under certain circumstances it is very useful to employ partial anesthesia. For this purpose he regards chloroform as better adapted than ether, as the latter is apt to cause a sensation of choking, and is not so quick in acting. He gives the chloroform in drops, the patient having fasted just as for complete anesthesia. After about two minutes, when the patient has inhaled from 80 to 100 drops, the sensibility for pain will be found to be almost absent, although he knows what is happening. In this way Riedel put the matter to the test by asking assistants at the clinic who were having teeth drawn to give the signal when the stage of analgesia had arrived. They felt the forceps being applied to the tooth, felt the to-and-fro movement, and also the extraction of the tooth, but not the pain. Since one cannot expect lay persons to give the signal, he usually makes the patient count during the inhalation, and as soon as there is the least irregularity in the counting, it is time to begin. When there is an idiosyncrasy against chloroform he uses ether, but, as stated, this takes longer to act. The danger of ether bronchitis, however, is removed if one employs the drop method. Naturally this method is only of use for short operations; it cannot replace either general full anesthesia or local anesthesia. The method is of great value in reducing fractures, especially of the radius and fibula.

Riedel points out that bad results after typical fracture-dislocation of the lower end of the radius are not uncommon, and that is due to the fact that many surgeons overlook the actual deformity, which depends on the impaction of the lower fragment into the upper. To reduce the deformity one must employ force, and the best method of attaining a good result is to hyperextend with considerable force, which he generally does "over the knee," then to bring the part into flexion briskly and at the same time bent to the ulnar side, and finally with much force to press the upper fragment dorsally and the lower fragment toward the palmar surface. This can only be carried out satisfactorily under the influence of some agent which will lessen the pain, and such an agent is the minimal drop dosage of chloro-

form. It matters little what form of splint is applied, as long as the reposition is properly carried out, but the bandage should not be put on too firmly at first. The same method of removing pain may be employed with good results in dressing wounds after operation, when plugging is required.

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### Note on the Sterilization of Catheters.

C. B. Nancrede and W. H. Hutchins (*Medical News,* Nov. 23, 1901) have made a number of experiments along this line, and from their experiences have drawn the following conclusions:

1. That an infected soft-rubber catheter cannot be completely sterilized by boiling under four and one-half minutes.

2. Mechanical cleansing from all dried pus, coagulated blood, or mucus, will render sterilization easier, and will demand a shorter time to be effective.

3. Elastic (English web) catheters and soft-rubber catheters can be repeatedly boiled for five or more minutes without roughening of their surfaces or diminution of their elasticity and strength.

4. Chemical sterilization by immersion in a 1:2000 mercuric chloride solution for five minutes does not sterilize any variety of catheters which has become infected, at best only inhibiting the growth of the germs, for if the mercuric salt be precipitated by ammonium sulphide the germs will grow freely when implanted in culture media.

5. The results of experiments indicate that chemical sterilization should never be employed for catheters which are to be retained in the bladder for some time, unless subjected to a very prolonged action of the mercurial salt, lest the merely inhibited germs develop.

6. Should corrosive sublimate be employed for the sterilization of catheters, it must be in a concentrated solution, and the catheter must remain in it for a much longer time than the usual period considered amply sufficient in the laboratory, no mere washing with any chemical solution being efficient for an infected instrument.

7. Formalin vapor will sterilize infected instruments in twenty-four hours; how much shorter time will be sufficient has not yet been fully determined.

8. All methods of sterilization commonly employed should be continued for much longer periods than the minimum time required for destruction of germs in the laboratory.

9. English web catheters can apparently be more readily

sterilized by heat than can soft-rubber catheters, probably on account of their interior construction.

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### Subparietal Rupture of the Kidney.

Thos. A. Davis (*Annals of Surgery*, September, 1902) says that the reduction in the mortality since Keen's report has been largely due to improved technique. Fewer deaths have been reported from sepsis. Several deaths have been reported from hemorrhage, which could undoubtedly have been avoided if more prompt and efficient means had been resorted to. He predicts that the mortality will be reduced to fifteen per cent.

The expectant plan of treatment is permissible in cases where slight hematuria is the only symptom. Tumefaction, much blood in the urine, severe pain, and history of great violence—each is a positive indication for prompt operative intervention.

Early operations should be done in all cases where the history of the case and the symptoms point to serious injury of the kidney: (*a*) Nephrotomy, with gauze tamponage, where the patient has not lost enough blood, so that little subsequent hemorrhage would not endanger life. (*b*) Nephrectomy where the kidney is irreparably injured, and in less extensive injuries where either sepsis or hemorrhage is likely to prove fatal.

In delayed cases it may be difficult or impossible to know just what is best to do. Every phase of the case must be considered, and then, if in doubt, operate.

Shock is the violent disturbance of the nervous system immediately consequent upon injury. While there is some ground for hesitation in those cases of true shock, most of the cases described as shock are depression of the vital force from hemorrhage or sepsis, and nothing short of prompt surgical intervention will prevent collapse.

Operate on the history of the case rather than wait for symptoms which may only suggest what should have been done earlier, but at last proclaim without hope for relief.

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### Morphine-Scopolamine Anesthesia.

B. Korff (*Münch. Med. Woch.*, July 8, 1902) complements his report on the effect of anesthesia by means of injections of morphine and scopolamine. The method apparently has not found favor with the majority of surgeons, and the action of the latter drug only has been dealt with by the ophthalmic surgeons and physicians in asylums. The latter prescribe it in doses of

0.002 gramme (1/30 grain), which is higher than the doses which he uses. The two drugs are antagonists. He does not think that it is of any advantage to employ smaller doses and to have recourse to chloroform anesthesia if there is not a sufficient action. He has not met with any unfavorable effects in any of the 130 cases in which the method was carried out, and the minor effects on the eyes and on the vascular system always passed off without trouble. He sets about it as follows: Four hours before the operation and half an hour after a fluid breakfast he injects 0.01 gramme of morphine (1/2 grain) and 0.0012 gramme of scopolamine (9/50 grain); after two hours he makes a second injection of the same strength; and half an hour before the operation he makes the third. One must watch that the tongue does not fall back and thus impede the respiration. Once with a very weak patient he observed signs of weakness of the heart, but these disappeared on giving two injections of camphor. He considers that an assistant should be told off to attend to the anesthesia. In cases of strangulated hernia he only uses two injections, and then has recourse to the ether spray for the skin incision.

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### Primary Cancer of Female Urethra.

Vineberg (*American Journal of the Medical Sciences,* July, 1902) operated for this disease on a woman, aged thirty-six. Her youngest child was nine years of age. She had been subject to frequent micturition for many years. For the last six months she felt a burning sensation in the urethra. There was smarting when passing urine, but no discharge or bleeding. The meatus and adjacent part of the vulva were free from disease. This is rare, and was noted in only seven out of twenty-seven cases of primary cancer of the female urethra collected by Ehrendorfer. A firm growth could be seen just within the urethral orifice. It completely surrounded the lower two-thirds of the urethral canal, and the morbid deposit was thickest posteriorly; altogether the mass was as big as a small thumb. The cystoscope showed that the bladder and its sphincter were healthy; the adjacent vaginal mucous membrane was free. The whole urethra was excised. The sphincter of the bladder was damaged during the operation, and repaired, but permanent incontinence of urine ensued, and a plastic operation proved unsuccessful. Five months after the removal of the urethra the patient was in good health and free from any sign of recurrence. Vineberg adds seven to Ehrendorfer's twenty-seven cases of cancer of the ure-

thra; amongst the seven are Campbell Kynoch's (*British Medical Journal,* vol. i, 1901, p. 1208) and five others, all published since January, 1900, the sixth being McGill's (*Lancet,* vol. ii, 1890, p. 966).

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### Subcutaneous Injection of Paraffin in the Correction of Facial Deformities.

H. Smith (*Medical Review of Reviews,* September, 1902) gives the following *résumé* of his technique in subcutaneous injections of paraffin:

1. Thorough surgical cleaning of instruments, field of operation, and hands of operator.

2. Four minims of a four-per-cent solution of cocaine is injected at the point intended for the entrance of the paraffin needle.

3. Thoroughly sterilized paraffin is drawn up into the syringe, allowed to cool to 90° or 100° F., and the set-screw then placed in position.

4. Needle is introduced away from the point of greatest deformity, and its point is carried forward slightly beyond this, being gradually withdrawn as injection is made, and the paraffin is slowly injected.

5. As the pressure is felt beneath the fingers, molding and smoothing the surface begins. This should be continued throughout the operation, thus preventing the paraffin collecting in lumps, giving rise to an irregular surface.

6. When sufficient paraffin has been injected the needle is removed and the point of its entrance sealed with collodion.

7. Ice cloths are applied for twelve to twenty-four hours, according to the amount of edematous swelling and inflammation which may immediately follow. Should this continue, a 25-per-cent solution of aluminum acetate applied on cloths is of service in reducing the inflammation. Pain has never played an important part in any of the writer's cases, and when desirable he has made the injections without the use of cocaine.

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### The Treatment of Gunshot Wounds of the Abdomen.

R. F. Amyx (*Medical Record,* September 20, 1902) says that in dealing with gunshot wounds of the abdomen with perforation of the intestines by a bullet, drainage should be instituted. It is impossible to estimate how much infectious substance is carried into the peritoneal cavity by the bullet from outside of the cavity. When the bullet passes through the intestine it carries

with it the contents of the organ. Besides this, the contents of the intestine will also pass through the perforations into the peritoneal cavity, so that there is a certainty of a wide-spread infection—one that is not removed by the flushing of the peritoneal cavity in a degree thorough enough to satisfy us that the peritoneum can take care of itself afterward.

The infectious substance is not the only factor to deal with. The manipulation of the abdominal viscera always produces a slight degree of contusion, so that the momentary lowering of the vitality of the peritoneum in the presence of infectious media, in many instances, terminates in a peritonitis of a varying degree.

The drains should not be disturbed before the fifth or sixth day, and then only a small portion should be withdrawn at a time. This manner of withdrawing the drains allows a better drainage than by immediate removal of the entire length of the drain.

The diet in such cases should be a liquid one up to the fifteenth day; after this period a gradual increase to a solid one, covering a period of one week.

## MEDICINE.

### An Inquiry into the Influence of Soil, Fabrics, and Flies in the Dissemination of Enteric Infection.

R. H. Firth and W. H. Horrocks (*British Medical Journal*, Sept. 27, 1902) have from their experiments drawn the following conclusions, which are equally applicable to enteric bacilli recently isolated from enteric stools as to old cultures of the organism which have been in the laboratory for many months.

1. That there is no evidence to show that the enteric bacillus, when placed in soil, displays any disposition or ability to either increase in numbers or grow upward, downward, or laterally.

2. That the enteric bacillus can be washed through at least eighteen inches of soil by means of water, even when the soil is closely packed down and no fissures or cracks allowed to exist.

3. That the enteric bacillus is able to assume a vegetative existence in ordinary and sewage-polluted soil and survive therein for varying periods, amounting in some cases to as much as seventy-four days.

4. That the presence or absence of organic nutritive material in the soil appears to be largely a negligible factor, since the enteric bacillus can survive in a soil indifferently well, whether it be an organically polluted soil or a virgin soil, and whether it receive dilute sewage or merely rain-water.

5. That an excess or great deficiency of moisture in soils appears to be the dominant factor affecting the chances of survival of the enteric bacillus in, or at least the possibility of recovering it from, soil.

6. That from fine sand allowed to become dry the enteric bacillus can be removed on the twenty-fifth day after inoculation

7. That from fine sand kept moist with either rain or dilute sewage, the enteric bacillus cannot be recovered later than the twelfth day after fouling; this inability to recover the organism is due probably not so much to its death as to its being washed down into the deeper sand layers by liquids added.

8. That in peat the enteric bacillus appears to rapidly die out, as the microbe cannot be recovered from it after the thirteenth day; but this soil is so porous that it is quite possible that the microörganism was washed down into the deeper parts and consequently not recoverable from the place of inoculation.

9. That from ordinary soil kept damp by occasional additions of rain-water the enteric bacillus can be recovered up to and on the sixty-seventh day.

10. That from a similar soil kept damp by occasional additions of dilute raw sewage, the enteric bacillus is recoverable up to the fifty-third day.

11. That from a similar soil kept damp by occasional additions of dilute sterile sewage the enteric bacillus is recoverable up to the seventy-fourth day.

12. That in a similar soil, after a heavy rainfall, the enteric bacillus at once disappears from the surface layers.

13. That from a similar soil, allowed after inoculation to become dry so as to be readily blown about as dust, the enteric bacillus can be recovered up to and on the twenty-fifth day; and that enteric infective material can be readily transported from dried soil and sand by means of winds and air currents.

14. That in a sewage-polluted soil recovered from beneath a broken drain, the enteric bacillus is able to survive up to the sixty-fifth day.

15. That from a piece of khaki drill, inoculated with an emulsion of the enteric bacillus and then allowed to become quite dry, the microörganism is recoverable up to and on the seventy-fourth day.

16. That from a piece of khaki serge, similarly treated, the enteric bacillus is recoverable up to and on the eighty-seventh day.

17. That from a piece of blue serge, similarly treated, the enteric bacillus is recoverable on the seventy-eighth day.

18. That from a piece of khaki drill fouled by liquid enteric feces and then allowed to dry the microörganism is recoverable up to the ninth day.

19. That from a similar fabric fouled by solid or semi-solid enteric feces and then allowed to dry, the microörganism is recoverable up to the ninth day.

20. That the enteric bacillus is able to survive in surface soil an exposure to 122 hours of direct sunshine, extending over a period of twenty-one consecutive days; that from a piece of infected serge the enteric bacillus is recoverable after the fabric has been exposed to fifty hours of direct sunshine spread over a period of ten days.

21. That ordinary house-flies (*Musca domestica*) can convey enteric infective matter from specific excreta or other polluted material to objects on which they may walk, rest, or feed; that such infective matter appears to be attached not only to their heads (mandibles probably), but also to their legs, wings, and bodies. It has not been proved that the enteric bacillus passes through the digestive tract of the fly.

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### Diagnosis of Appendicitis.

Cumston (*American Journal of the Medical Sciences*, August, 1902), after pointing out the great variability in anatomical relationship which the appendix may assume, records several cases instancing the difficulties in diagnosis arising under such circumstances. These abnormalities are classed under three heads: (1) Those due to adhesions occurring during fetal life and giving rise to intraperitoneal or extraperitoneal appendicitis, subhepatic peritonitis, or to perinephritic or perihepatic abscesses, and those cases of appendicitis in hernial sacs in the male or in the female pelvis. (2) Those due to malformations or displacements of the cæcum and the appendix. (3) Those due to an altered relationship between the appendix and the cæcum, when the former, either from excessive length or mobility, may give rise to an encysted or generalized peritonitis, or by becoming folded under the cæcum outside the peritoneum may cause pus to travel toward the kidney or into the pelvis.

No single symptom can be considered pathognomonic, the diagnosis having to depend upon a consideration of all the symptoms together with the history, and a warning is given against placing too much reliance upon pain, rigidity, and hyperesthesia about McBurney's point, since in a great number of cases the pain is exclusively localized around the umbilicus. Notes of sev-

eral cases are recorded in which appendicitis has given rise to symptoms simulating inflammatory conditions of the right ovary and tube, the true condition in many cases only being discovered upon operation, when an inflamed appendix was found in some instances adherent to the ovary and tube, in others only involving the small intestine. In one case, diagnosed as pelvic abscess after miscarriage, an inflamed cæcum was found with a gangrenous appendix reaching down into the pelvis; while in the case of a boy, aged seven, presenting all the symptoms of appendicitis, an undescended testicle, almost gangrenous from twisting of the cord, was discovered at the operation; and in another case of a boy, aged six, the tip of the appendix was gangrenous, being strangulated by a band of adhesions binding it down to the ileum, which with the cæcum was inflamed, and together with the peritoneum studded with miliary tubercles. Annular carcinoma of the cæcum in another instance gave rise to symptoms of appendicitis, the organ on removal being apparently normal. Difficulties in differential diagnosis may also arise between cases of appendicitis and the early stages of enteric fever; psoas abscess, or where an appendicular abscess has formed over the psoas muscle or burrowed into it; movable kidney; intestinal obstruction and strangulation; lead colic; hysteria, etc.; while the very variable reaction of the peritoneum in different subjects has been taken into consideration. Cases of left-sided appendicitis arising from developmental abnormalities in the position of the cæcum and appendix, or from pronounced kyphosis, may occur, and even when the appendix arises on the right side it not infrequently happens that, owing to its increased length, it may cross to the left side and there form adhesions, when an inflammatory process located in its apex would give rise to symptoms in the left iliac fossa.

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### Gonorrheal Peritonitis.

Hunner and Harris (*Bulletin of the Johns Hopkins Hospital*, June, 1902) report several cases of general peritonitis due to gonococcus infection. It is probably universally admitted to-day that the gonococcus may be the sole cause of an acute general peritonitis, but the questions of prognosis and treatment are still unsettled. The authors report cases showing the relative frequency and gravity of this condition in children. One patient, a child of ten years, had a gonorrheal vaginal discharge followed by peritonitis. The abdomen was opened and irrigated, but the patient died soon after the operation. Gonococci were cultivated

from the peritoneal exudation. In another child of five years old pyosalpinx and peritonitis developed. Several other cases of pyosalpinx and peritonitis of gonorrheal origin are reported in females, gonococci being found in the tubes or peritoneal pus.

The authors' experience, together with a study of the literature, convinces them that surgical measures in gonorrheal peritonitis are of doubtful value. However, the question of differential diagnosis will always need careful consideration, and where there is reasonable doubt operation should be performed. Appendicitis must always be borne in mind. A history of gonorrhea of recent date or long duration, with the discovery of gonococci in the cervical, vaginal, urethral, or glandular secretions, should make the surgeon suspicious. If there is a history of pelvic pain and tenderness, and a mass can be felt in one or both ovarian regions, the diagnosis becomes probable. If a general peritonitis accompanies the above conditions, and has occurred immediately after the manipulation of pus tubes, or during a menstrual period, or in the puerperium, the diagnosis is almost certain. If the tubes contain pus in any quantity they should be removed. The question of removing the tubes when no pus is present must be decided by various circumstances, such as the desirability of risking preservation of the child-bearing function against future trouble from the tubes. The symptoms of acute gonorrheal peritonitis—abdominal distention, tenderness and rigidity, vomiting, high temperature, and rapid pulse—are similar to other forms of peritonitis, but the clinical course is characteristic. After an acute onset lasting one to three days the symptoms suddenly abate, and the patient makes a rapid recovery, but usually preserving an intraperitoneal exudation, pelvic adhesions, or pus tubes. In the treatment of gonorrheal peritonitis the authors recommend rest in bed, turpentine stupes, mild cathartics, liquid diet, and stimulating treatment according to the severity of the symptoms.

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### The Pathological Changes in Hodgkin's Disease.

Dorothy M. Reed (*Johns Hopkins Hospital Reports*, vol. x, 1902) contributes a careful study of the changes observed in the glands in eight cases of Hodgkin's disease. It is unquestionable that a considerable number of cases of Hodgkin's disease end by developing tubercle, and it has been suggested that the former affection is merely one of the protean forms of the latter. Miss Reed's researches make it far more probable that the latter is a terminal infection. Histologically there is no resemblance between the two. The essential factor in Hodgkin's disease is an

overgrowth of the so-called endothelial cells by the lymphatic glands; these are really flattened-out cells lining endothelial spaces. Nor does the microscopical picture suggest a malignant neoplasm; it much more closely resembles a chronic inflammatory process. There is a great increase of fibrous tissue, and eosinophiles—apparently attracted by chemotaxis from the blood—are usually present in large numbers. Large giant cells, derived from the endothelial elements, are also present; their nuclei may be single; if multiple, they may be centrally or peripherally arranged. Carefully conducted inoculation experiments have all failed. The writer would limit the term Hodgkin's disease to a clinical and pathological entity, the main features of which are painless progressive glandular enlargements, usually starting in the cervical region, without the blood changes of leukemia. The microscopical examination, if properly made, is sufficient for the diagnosis, which may, if necessary, be confirmed by the negative results of inoculation. The pathological agent is as yet undiscovered, but has no direct relation to tuberculosis.

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## Seasickness.

At a recent meeting of Deutscher Aertze in Prague, Fishl (*Medical Press*, Aug. 27, 1902) read a paper on "Mal de Mer" embodying two years' observations in Lloyd's as ship doctor. After reviewing the various reputed specifics for the ailment, he stated that nothing had so good an effect as diet in respect of the headaches and sickness. Food should be given in small quantities. Kramer found that the choroid and retinal vessels were greatly contracted, leaving the fundus pale during the attack, a fact which indicated the necessity for lowering the head to increase the blood-supply. He states that he faithfully devoted himself to this scientific treatment with considerable success. In sixty-nine of the cases two hours with the head low relieved the headache and vomiting. He added that very great injury was done to tuberculous subjects by permitting them to go to sea.

In the discussion Welminsky said that he took exception to the observation in respect of tuberculous subjects, as English authorities had long been in the habit of sending their consumptive patients to sea with reputed good results; indeed, they were still in the habit of advising their patients to take a sailing vessel in preference to steam, so that the sea exposure might be greater. In addition to this they are in favor of anchoring sanatoria in bays and rivers for this purpose.

### Splenic Anemia of Infancy (Pseudoleukemic Anemia).

Dr. J. S. Fowler (*British Medical Journal*, Sept. 6, 1902) has collected some twenty cases of this affection, and his article is based upon a consideration of them. His conclusions are as follows: Enlarged spleen, often associated with anemia, is not uncommon among young children. In bad cases the blood is much altered, while in slighter ones there may be but little change. The change in the blood differs from that in any other disease, and is characterized by (*a*) lymphocytosis, due to the occurrence of numerous transitional and probably immature uninuclear cells, and (*b*) the presence of erythroblasts, often in numbers out of all proportion to the diminution of the red corpuscles. The name pseudoleukemic anemia has been given to the more severe cases, but to draw any hard and fast line between these and slighter ones, or, indeed, to introduce further subdivisions based on any particular blood change, is entirely arbitrary. Since the splenic enlargement is more constant than any single change in the blood, and since both arise independently of any other disease, it is not justifiable to regard these as cases of secondary anemia. The clinical features of the condition are sufficiently definite to warrant this being looked upon as a primary disease, to which the name splenic anemia of infancy may be given.

## THERAPEUTICS.

### A Case of Anthrax Cured by the Intravenous Injection of Argentum Colloidale Crede.

Dr. Schrage, of Timmel, Germany, records a case of anthrax cured by the intravenous injection of argentum colloidale Credé (*Allgemeine Medicinische Central-Zeitung*, Aug. 9, 1902). The patient was a man seventy-five years old, but strong and vigorous for his age, who infected himself whilst assisting at the post-mortem of a horse that had died of anthrax. Infection occurred on both arms; and on May 5, when Dr. Schrage was called, there were extensive malignant pustules on the anterior surface of both forearms, his pulse was rapid and irregular, his temperature was 40.3° C. (104.5° F.) in the axilla, he staggered in his gait, and his entire condition was that of a very sick man. There were several smaller carbuncles and vesicles upon the forearms and hands, and his blood showed the presence of the characteristic bacilli. Diagnosis of anthrax of a very severe type was hence made, and a sublimate dressing applied to the limbs.

Dr. Schrage's attention had been accidentally drawn a few days before to Fischer's account of a case of anthrax of medium severity which had been quickly cured by intravenous injections of Credé's colloidal silver (*Münchener Medicinische Wochenschrift,* No. 47, 1901; *Berliner Klinische Wochenschrift,* No. 17, 1902), and he determined to employ it in his case as the prognosis was absolutely bad, and prompt action was necessary. At five o'clock in the afternoon of May 5, three cubic centimeters (¾ drachm) of a one-per-cent solution of collargolum was injected into the left cephalic vein. Camphor emulsion was administered internally because of threatened cardiac failure. On the next day, though the general condition was still very bad, there was no more vomiting. Local condition was unchanged; temperature 38.5° C. (101.3° F.), pulse rapid and irregular. Injection repeated. On May 7 the patient was much better; the pulse was slower, fuller, and regular; the temperature was 36.6° C. (97.9° F.). Carbuncles still unchanged, but the swelling commenced to go down. As the worst danger seemed now over, no further injections were given; but he directed that 10 grammes (2½ drachms) of the colloidal silver ointment be inuncted in the course of three days, and the carbuncles were covered with itrol (citrate of silver).

The further course of the case presented no points of special interest. The patient remained afebrile, the swellings on the arms retrogressed, his strength increased. Of course, it took several weeks before the large masses of necrotic tissue were cast off.

The favorable result in this severe infection was undoubtedly due to the collargolum, which acted especially rapid because it was administered intravenously. The possibility that the improvement was spontaneous can certainly be excluded.

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### Treatment of Acute Infantile Bronchopneumonia.

J. L. Steven (*Lancet,* Sept. 20, 1902) says that the important point in the treatment is the prophylaxis. It is to be remembered that every common cold or bronchial catarrh or gastrointestinal disorder in a young infant may pass into the exceedingly serious and fatal disease of bronchopneumonia. It is obvious then that everything should be done to prevent such an occurrence. No indisposition in an infant should be regarded lightly. The child should be carefully treated and not lost sight of till all symptoms of initial disorders have passed away. In particular the mother should be warned of the danger of exposing the child to

cold, and of the necessity of keeping him or her warmly, though not heavily or tightly, clad. A gastrointestinal derangement should be corrected by careful directions as to diet. In the presence of the acute disorder itself the most important point to bear in mind is the fact that we are dealing with an acute generalized inflammatory disease of the respiratory apparatus, the immediate tendency of which is to produce great exhaustion of the vital powers. The disease is very essentially one of debility, and treatment should aim to maintain nutrition and stimulate the failing heart. All the measures tending to depress the child should be strictly avoided, and for this reason emetics are not to be used. Place the child in an airy room, well warmed, and if it can be easily managed, let the air near his bed be moistened from the steam of a bronchitis kettle, which will often be found to have a marked effect in soothing a cough. Do not load him with clothes to keep him warm, and avoid compression of the chest and abdomen by flannel binders. Two or three plain linseed poultices in the course of twenty-four hours applied back and front are often of service as mild counter-irritants. Feed the child with milk diluted or peptonized, and check diarrhea by subnitrate of bismuth, combined if necessary with one or two Dover's powders. Alcoholic stimulants are almost always necessary, but they should be strictly supervised by the medical practitioner, ordered by him as occasion demands, and prescribed in minims, not in drachms. A mixture containing from half a grain to a grain of carbonate of ammonia and two minims of digitalis in each dose, made up with syrup, may be given every three or four hours. The child should be constantly watched by a competent nurse, and should be occasionally held up to relieve breathing.

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### The Serum Treatment of Rheumatism.

Menzer (*British Medical Journal*, Sept. 27, 1902) deals with a new method of treating acute and chronic rheumatism. Acute rheumatism is characterized by having a peculiar relation with certain parasitic bacteria in the upper air-passages, and according to the latest researches it is always a streptococcus infection. It is therefore reasonable to treat it with antistreptococcus serum. For this purpose Menzer prepares a serum by immunizing animals with streptococci isolated from the tonsils of rheumatic patients. The injection of this serum produces a reaction—that is, causes fresh inflammation and pyrexia—in persons suffering from chronic rheumatism, and in the acute stage it favors the resolution processes. Normal animal serum and Marmorek's

serum do not have this effect. It does not lessen the fever, nor does it diminish the pain, as salicylic acid and its salts do; but the attack lasts for a shorter time than usual, and recurrences have not been observed. In twenty acute cases treated in this way the average duration of the joint pain was five to six days, and of the fever six to seven days. Endocarditis also appears to have been favorably attacked. Cases of chronic rheumatism were improved or cured in from two to three weeks, although they have been treated without result by other methods for several months.

The serum has not produced any bad effects even when injected in large quantities, such as 50 cubic centimeters, the only results being redness and swelling at the site of injection, and in a few cases swelling of the lymphatic glands. At times urticarial and papular rashes were noticed after the temperature had fallen. The serum was also applied in cases of mixed infection of phthisis and chronic streptococcus bronchitis. In the latter it effected a cure, which fact Menzer regards as proof against the specific nature of the rheumatism coccus. In the former it produced local reaction and fever. He employs it in doses of from 5 to 10 cubic centimeters daily, and usually gives 50 to 75 cubic centimeters altogether.

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### The Treatment of Gout.

J. W. Springer (*Australasian Medical Gazette,* July, 1902), in an article on the proteid basis of gout, says that a restriction in the amount of proteid in the food is at once suggested. But in practice we must bear in mind the fact that vegetable proteid is less easily assimilable than animal, and that the inter-relations of the other hepatic functions have to be considered. Hence, discretion is always necessary. During an actual attack meat may, no doubt, be entirely cut off; but in the intervals, as shown by many cases of chronic gout, cholelithiasis, and phosphaturia, there may be patients who thrive best on a plain meat diet, just as there are others, mostly rheumatic, by the way, who have come to regard a vegetarian diet as their salvation.

The value of plenty of water to flush the system, of free exercise to oxidize the proteids, of free bowels (especially in the rheumatic with the aid of cholagogues from time to time), of free skin action, even to occasional Turkish and hot salt baths, is also apparent.

The importance of protection against chill by clothing and climate is equally obvious. Jaeger or the like next the skin, or

cellular cloth where wool is irritant, the use of cummerbunds or cholera belts, and avoidance of variable and damp climates, are thus indicated.

So, too, the frequent use of alkalines, or, as in phosphaturia, the occasional use of acids, is justified theoretically as well as practically.

The advisability of taking as little alcohol as possible requires no further comment.

### Addison's Disease Cured by Suprarenal Extract.

W. E. Deeks in a recent number of the *Montreal Medical Journal* gives the history of a case of Addison's disease in a woman thirty-two years of age. She suffered from weakness, breathlessness, dizziness, headache, palpitation, lassitude, and loss of energy. Pigmentation was universal, but deeper where pigment normally is present, on the exposed parts, where clothing bears most heavily, as neck, hips, and shoulders; also on the mucous membranes of the lips and cheeks. There was no response to various forms of treatment instituted, and it was decided to try suprarenal extract, three grains, three times daily after meals. Improvement began immediately, and within three days vomiting and diarrhea began to lessen, and the patient began to gain strength and feel better. In two weeks she was very comfortable and enjoying her meals. Examination of the blood showed that hemoglobin had increased from 32 to 40 per cent. In three weeks pigmentation was fast disappearing. Later reports showed that she was doing well.

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## OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

### Prognosis in Chronic Catarrh of the Ear.

Thos. J. Harris (*Annals of Otology, Rhinology, and Laryngology,* No. 3, 1902) remarks that a great share of the aurists' clientele are cases of chronic aural catarrh. He asks if we are all getting the results we want, or if we ever get discouraged.

He states that our progress in the treatment of chronic catarrh of the ear has been very little; that our chief success to-day rests in our ability in setting aside the producing nasal catarrh; that tubal therapeutics and pneumo-massage are at the best too often

of temporary benefit, and in the hands of some even of decided harm; that a promise to check the deafness is often all we can promise with safety; and that prophylactic measures are of greatest value, especially the early removal of the ever-present adenoids.

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### Aural Bougies for the Relief of Earache.

Dr. Geo. L. Richards (*Annals of Otology,* No. 3, 1902) speaks enthusiastically of aural bougies for the relief of earache and otitis externa. The following is the formula, which is a modification of those introduced by Gruber: Carbolic acid, 1/16 minim; fluid extract of opium, 1/7 minim; cocaine, 1/4 grain; atropine sulphate, 1/14 grain; enough water, gelatin, and glycerin to make a proper mass which will readily dissolve at the body temperature. These bougies are the size of a quill and half an inch long. After dipping in warm water they are inserted into the external auditory canal. In his experience, earache had been aborted by this means in considerably more than one-half of the cases occurring in children. The bougies could be done up in tin-foil or dispensed in lycopodium powder.

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### A Case of Supposed Death from Atropine Poisoning.

Dr. Rockliffe (*Archives of Ophthalmology,* vol. xxxi, No. 5) reports the case of a very delicate-looking child, aged ten months, who had suffered from convulsions most of this time. He first of all put in three drops of a one-per-cent solution of atropine in the eyes, which did not dilate the pupils fully. More atropine was applied, but during the thirty hours which elapsed from the first using of the atropine only seven drops were used. The temperature rose to 105.6°. The pulse was uncountable and the respirations 72; the skin was red, and the lips had a quantity of mucus about them. In this state the child died.

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## GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,
Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

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### The Treatment of Pelvic Suppuration.

A. J. Puls (*American Gynecology,* September, 1902) states that the treatment of pelvic suppuration consists without excep-

tion in securing effectual drainage. In simple pelvic abscesses a vaginal incision in the posterior vault, keeping close to the cervix, is a speedy and safe procedure. Posterior colpotomy offers an excellent route for drainage. Through the vaginal opening the various smaller or larger pus sacs are broken up with the fingers or point of the scissors to allow a wide communication with the artificial outlet. Abscesses situated between the bladder and cervix may be drained by anterior colpotomy.

Paravesical abscesses and those situated in the broad ligaments pointing toward the anterior abdominal wall should be incised above Poupart's ligament, analogously to the incision for ligation of the external iliac artery. Tubal and ovarian abscesses situated above the pelvic brim are to be incised and drained through the vagina by exposure through an abdominal incision under full view, to avoid injuries to the adjacent and contiguous organs. Complete extirpation of the uterus and adnexa is advisable only in those cases in which infiltration of pus into the tissues has produced an irreparable loss of the functions of the organs of reproduction. A diseased uterus, after the removal of both appendages, becomes a useless and troublesome organ and should be also removed. Pyosalpinx or ovarian abscesses associated with uterine fibroids require complete removal and should be followed by vaginal drainage.

Our aim should be to avoid abdominal drainage and to substitute vaginal drainage. We should practice conservation in the operations for diseased uterine appendages even while they are undergoing suppurative processes, both as a life-saving procedure and if possible to secure a *restitutio ad integrum* of the pelvic organs.

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### Albuminuria of Pregnancy.

Veit (*Berliner Klin. Wochenschrift*, No. 22, 1902) in an article under this heading draws the following conclusions:

By introducing a sufficiently large quantity of placenta into the abdominal cavities of rabbits albuminuria is set up. The pigment of the skin of pregnant women contains iron. The urine of pregnant women contains rather more iron than the urine of non-pregnant women. The blood serum of pregnant women only exceptionally contains hemoglobin. The blood serum of women in labor contains hemoglobin rather more frequently. The blood serum of the new-born child contains generally no hemoglobin, but it has been observed as an exception. The author demands that the obstetric clinic should be furnished with a well fitted

laboratory in which the newer methods of investigation can be carried out as regards chemistry, physics, and physical chemistry. Obstetrics not only strive to deliver the woman in the best possible manner, but also aim at the improvement of our knowledge as regards the influence of pregnancy on the organism. The more the favorable influence of pregnancy on the woman becomes known, the better shall we know how to avoid harmful consequences by the powers of nature, and the better will the well-being of woman be insured.

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### When and Why Does Labor Begin?

The statement made in many text-books that the cervix maintains its entire length during pregnancy is, according to G. P. Shears *(Medical Record,* Aug. 23, 1902), incorrect.

The statement sometimes made that the canal of the cervix remains closed until the beginning of labor is also incorrect. Usually in multiparæ, and occasionally in primiparæ, the canal including the internal os is dilated to the extent of admitting one or two fingers two or three weeks before labor begins.

Dilatation of the external or internal os or of the cervical canal is not *per se* an indication of beginning labor.

Dilatation of the clinical internal os or ring of Mueller in such a manner that it begins to form a part of the uterine cavity is at once the anatomical commencement and the diagnostic sign of true labor.

Dilatation at this point is the final result of uterine distention and consequent cervical eversion.

Dilatation at this point, owing to the greater resistance offered by its effect upon the cervical ganglion, and the consequent awakening of effectual uterine contractions, is the physiological cause of labor.

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### Infected Ovarian Cysts.

Reuben Peterson *(American Journal of Obstetrics,* June, 1902) cannot believe that all the reported cases of suppurating ovarian cysts are such in reality, and describes a case of his own which might easily have been reported as one, but in which, on bacteriological and microscopical examination, it was found that the gross appearances of the fluid contents were the result of necrotic changes in the cyst wall. Cultures made from the fluid at the time of operation gave no growth. From most careful study, and from his own experience, he is convinced that sup-

puration of an ovarian cyst is a most serious complication, and that, with or without operative interference, it is attended with a high mortality. The contents of every "suppurating cyst" should be subjected to microscopical and bacteriological examination. The majority of the patients from whom cysts shown definitely to contain pathogenic bacteria have been removed by the abdominal route have died of general peritonitis. When the suppurating cyst does not reach above the limits of the pelvis, better results may be got from vaginal incision and drainage.

## NEUROLOGY.

UNDER THE DIRECTION OF CHARLES W. HITCHCOCK, M.D.,
Attending Neurologist to Harper Hospital.

### The Early Diagnosis of Paresis.

F. X. Dercum, in writing upon the early recognition of paresis in the April number of the *American Journal of Insanity,* at once recognizes the especial difficulties of the problem, because of the general disturbance which in the average case precedes by a long time the appearance of the special symptoms, denoting organic change. The patient, though easily fatigued, yet fails to present the fatigue so characteristic of the neurasthenic state.

The neurasthenic relates a long list of symptoms entirely subjective in character. The paretic rarely comes of his own volition, and his friends tell of his symptoms; it is they who suspect his illness, not the paretic himself. The neurasthenic is changed little or not at all in appearance. The neurasthenic, after a night of disturbed sleep, gets up exhausted and depressed, and is often not at his best until evening. The paretic on the other hand, though insomnia, dreams, or disturbed sleep may have been his portion, is usually at his best in the morning, being drowsy and with other symptoms toward evening. Qualitative mental changes noticeable in the paretic are absent in the neurasthenic. In the paretic are noted inability to fix the attention and a distaste for his usual work, irritability displayed on trifling occasions, proneness to forget, changes in habit, deficiencies in conduct, and a general dulling of the finer senses. The neurasthenic knows and observes the ordinary proprieties. The paretic early, easily, and habitually disregards them. Distinction between early paresis and alcoholism is often more difficult.

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## ORIGINAL CONTRIBUTIONS.

### X-RAY APPARATUS AND X-RAY METHODS, AND THE LINES ALONG WHICH PROGRESS HAS BEEN MADE.

BY EUGENE R. CORSON, M.D., SAVANNAH, GA.

A friend visiting Professor Roentgen asked him how he discovered the *x*-ray, and the great physicist replied: "Ich spielte mit einem Inductorium" ("I was playing with an induction coil"). This is not the first time that a great discovery has come out of the play-room of the scientist, but the point I wish to emphasize is that the source of energy used was the induction coil, just as Sir Wm. Crookes, seventeen years before, used a coil for his tube in his great researches into radiant matter. And to-day, again, when Lord Kelvin and Prof. J. J. Thomson undertake any experiments on electric discharges through rarefied gases, they use the powerful coil as the source of energy. And if they were asked why they used the coil instead of the static machine, assuming that they would not regard the question as a stupid one, their reply would be: "For many reasons; the coil is useful to us in the laboratory for many purposes; it is the handiest instrument; it works for us rain or shine, whether the air be moist or dry; it takes up but little room; but more important still, it gives us heavier discharges than the static machine. From the latter we can get all the spark length we want, and more, too, but after attaining a certain voltage, what we need is more current, and we get this from the coil more readily than from the static machine. The electrical excitation of the static machine depends upon the potential induced at its terminals, so that when used on a tube where the resistance and vacuum are low, there is not enough current generated, and although the spark gap in series with the tube, by increasing the resistance, also increases the output of the machine, more energy is lost in the spark gap than is utilized in the tube. I speak of the static machines on the market to-day."

But before we can dismiss the static machine from consideration in this paper, it will be well to take into account its position to-day among *x*-ray workers.

Germany, which holds the honor of the discovery, and which has since then, to my mind, held the torch well above the rest of the world in the application of the *x*-ray, and which has done more to give us the instantaneous skiagraph of the chest, the greatest achievement of the *x*-ray in internal medicine, will not consider the static machine in any serious way.

Donath[1] does not even mention it; Gocht[2] only mentions it to condemn it; Ernecke, the great instrument-maker in Berlin, does not figure it in his catalogue; and as far as I have been able to find out, all the *x*-ray workers in Germany who have done any work worthy of publication use the coil. Germany's position from the start has been based upon a critical scientific standpoint.

France again has followed in the wake of Germany. Londe[3] takes some pains to show the superiority of the coil; Hebert[4] does not even mention the static machine. England has more seriously considered it, but this has been the natural consequence of the great efforts which the makers of electrical apparatus in England have made toward the perfection of influence machines. But even this serious consideration has not placed the static machines on a par with the coil. A glance at the literature will show that the coil takes precedence. In the military hospitals it naturally had to be the source of energy, and the general civil hospitals employ it quite entirely. England has been far behind Germany in this matter; the English *x*-ray journal is much inferior to the German, and the general works on the subject are not to be mentioned in the same breath. To England's credit let it be said, however, that in the field of pure scientific research into the nature of the *x*-ray—I refer especially to the work of Lord Kelvin, Sir G. G. Stokes, and Prof. J. J. Thomson—she stands well foremost, if not first, and it must not be forgotten that the discovery of Professor Roentgen was based upon the marvelous work of Sir Wm. Crookes.

When we come to this country the subject assumes quite a new phase. Great as is the activity in electrical work and in the advancement of the practical application of this new science,

[1]Die Einrichtungen zur Erzengung der Roentgenstrahlen und ihr Gebrauch, von Dr. B. Donath, Berlin, 1899.

[2]Lehrbuch der Rontgen-Untersuching zum Gebrauche für Mediciner, von Dr. Hermann Gocht, Stuttgart, 1898.

[3]Traite pratique de Radiographie et de Radioscopie, par A. Londe, Paris, 1898.

[4]La Technique des Rayons X, par Alexandre Herbert, Paris, 1897.

we are greatly overburdened by a spirit of commercial enterprise and a genius for advertising unequaled in any other part of the world. Much is made in this country to sell, and a good seller is a good thing, and I fear that many in the profession have caught the infection. Papers are written, even books are written, to "hump up" certain wares. And there is no one piece of electrical apparatus, unless it be the electric belt, which has suffered more, has been more degraded, than the static machine. Its makers have become legion. We are offered all sorts of cut prices, all sorts of inducements. The physician is enticed to buy a machine which does a little of everything—*x*-ray work, therapeutic work, and therapeutic work which cures many ills, and last, but not least, furnishes an office and has an immense psychic effect upon the patient. But few naturally can resist the temptation. Many prefer such an apparatus which does so many things, *multa quam multum,* than an apparatus which can only do *x*-ray work, even though it be the best *x*-ray work. We see the same tendency in other fields. For the ordinary microscopic work of every-day practice many are satisfied with a one-eighth objective; those who truly wish to do the best work get an immersion lens. It is simply a question of what you are satisfied to do.

Attempts to produce static machines better able to compete with the coil have not been very successful. Of course static machines can be made to supply the necessary energy, but it means a great outlay. You pay dear for your whistle. A great machine has been made with four revolving plates six feet four inches in diameter. Undoubtedly it is a great source of energy. But look at the cost of such a machine, the space it occupies, and power necessary to run it, and do not forget that in enlarging the machine the difficulties and objections of the smaller one are also magnified, and after all I have seen no evidence to show that it is equal to the powerful coil.

A mica plate machine has been invented, and judging from the advertisements, which equal in number and flagrancy the best selling patent medicine, one might suppose that the last step had been taken in the perfection of a source of energy. When we ask for evidence of efficiency, for something more than the mere assertion of the makers, the evidence cometh not.

Let us go back to the coil. At the time of Professor Roentgen's discovery, the induction coil was not the perfected instrument it is to-day. To be sure Spottiswoode had made his great coil and had shown the world that a great coil could be made. Tesla had also invented his coil of high frequency and high potential, and had shown us the wonders of sublimated elec-

tricity. But the ordinary Ruhmkorff coil of the physical laboratory was a rather small affair, and the one used by Professor Roentgen could not be compared with the highly perfected instruments of to-day. The powerful induction coil may almost be said to have had its birth with the discovery of the *x*-ray. Practical electricians at once set to work to perfect this instrument, which showed a usefulness outside the physical laboratory, and in a surprising short time improvements were made in every part of the machine. Larger coils, with better insulation, better and larger condensers, and better interrupters, giving greater spark length and more current, were soon on the market. They were adapted to the different electric mains as well as to the storage cell. From the ordinary hammer, or App's vibrator, ingenuity seemed to have no limit in devising new forms of apparatus to produce a sharp and rapid break in the primary, and a very distinct advance was made in this direction. Wehnelt, of Charlottenburg, following Spottiswoode, devised a form of electrolytic break which at once increased enormously the output of the coil. Following again along the same line, Caldwell, in this country, invented an electrolytic break which offered certain advantages. The electrolytic break made possible the instantaneous photography of the chest, and a very great shortening of the exposures for the difficult parts of the body. And this did more than any other step to widen the field of usefulness of the *x*-ray in internal medicine. Germany adopted it from the start, and Donath in his work has thoroughly shown us its working, the difficulties to be overcome, and its great advantages when properly adapted to coil and tube.

A new coil has made its appearance, and one which differs in many ways from the Ruhmkorff type, or even the Tesla model. It is the invention of Mr. Kinraide, of Boston, and is a striking evidence of how many possibilities lie in this direction. We see here carried out the principle of great quantity of current with very high voltage, and I feel I can predict for it a great future in *x*-ray work. The inventor has gotten the effect of the Wehnelt interrupter, a very heavy current, and he has besides well pulverized it in the magic mortar of induction, giving us the Tesla effects in addition. An interesting feature of this coil is its adaptation to therapeutic work, which will, of course, make it a more valuable instrument for the physician's office. It can even be used for cautery work. Whether it will do in a therapeutic way what the static machine does may perhaps be questioned, but it is certainly a step forward, the most decided step towards the adaptation of the powerful coil for

therapeutic work. The evidence thus far is working towards the extinction of the static machine even for therapeutic work. Mr. Kinraide's coil will do the most difficult *x*-ray work, and will do it well. Some experiments made with my friend, Dr. R. J. Nunn of this city, show a shortness of exposure comparable with a 60-centimeter spark coil on an electrolytic break.

It is interesting to note the lines along which progress has come. The principle to be realized was a source of energy, giving at least sufficient voltage to overcome the resistance of a high vacuum tube, and the generation of a quantity of current, such quantity to be limited by the endurance of the vacuum tube with its inleading electrodes, its cathode reflector, and its platinum anode and anti-cathode. We cannot but wonder at the results obtained in the beginning with the Crookes tube, really in no way adapted to the generation of *x*-rays. It was made for the cathode ray.

Progress along this line has been rapid, and it is again a significant fact, that the perfection of the present *x*-ray tube has followed solely the use of the coil. There is not an improvement which has followed the use of the tube on the static machine. Improvement has been along the line of stronger tubes with a more perfect focusing of the cathode rays, and a diminution of the irregular connection currents, all working towards sharper shadows and better definition. The curvature, size, and position of the cathode have been most accurately determined. The platinum reflector has been made to keep the platinum cool. And then there is the self-regulating tube, invented by Sayen, and made by Queen & Co., which enables us to regulate the vacuum to quite a close point. This was an improvement over the simple potash bulb for reducing the vacuum, a device which dates back to Sir Wm. Crookes.

Physicists are busy studying the phenomena inside the tube, especially the convection currents, the return flow from anode to cathode, and these researches must all tend toward an improvement in tube efficiency, especially in the sharp focusing of the cathode rays and the sharper *x*-ray shadows. The irregular flickerings of the older tubes caused by the irregular convection currents we do not see in the later models. The tube has a much longer life. In fact, with the new tubes the life is almost indefinite when properly used. The wonderful balance of power has been even more delicately adjusted. I have one tube, and one of the simpler tubes, too, which is still a fairly good one after four years' use. It is at least perfectly efficient for therapeutic work.

Barium platinocyanide still remains the best fluorescent substance known for the screen. It was the one used by Professor Roentgen. The tungstate of calcium has more phosphorescence, which renders it less useful for the fluoroscope, but which makes it efficient as an intensifying screen for photographic work. Improvement in this direction has come only from a more skilful preparation of the fluorescent surface. But with the fluoroscope a distinct advance was made in the perfecting of a stereoscopic fluoroscope. The first effort in this direction was made by Davidson, but Mr. E. W. Caldwell, of New York, has perfected a new method, a great improvement over the former, and he has given us a very clear and detailed description of his invention in the *Electrical Review* for November, 1901. In this way, instead of a flat shadow, we have one in relief, apparently in front of the screen, and the stereoscopic effect is sufficiently accurate to be of great practical value in estimating the position of foreign bodies, and in obtaining clear conceptions of the real positions of broken bones or dislocations. The arrangement is necessarily a complicated one, and Mr. Caldwell's paper should be consulted to understand the difficulties of the problem and how successfully they have been overcome. It will enlarge considerably the usefulness of the fluoroscope. Again we must note, too, that this improvement has followed the coil.

It does not take the *x*-ray worker long to realize that the good photograph shows vastly more than the screen can ever show. The eye cannot hold the detail which the photographic plate gives us. Even in the study of the chest and its moving organs, valuable as the screen is in estimating relations, and the extent of movement of heart, diaphragm, and lungs, the photograph shows us more, and this has become all the more apparent with instantaneous photography, first accomplished by the German workers, and carried out with a success which hardly seemed possible in the early days of *x*-ray work. Look at the great Atlas of von Ziemssen and Rieder,[1] and you can see the wonders of *x*-ray photography in its relation to internal medicine, and that the German methods of work must stand as the best yet attained. The instantaneous photograph is the result of the powerful coil, the Wehnelt interrupter, the intensifying screen, and a most careful photographic technique. By these means early tubercular deposits are better recognized; the outlines of heart, large blood-vessels, and beginning bronchial tubes can be most accurately mapped out. Even the difficult work of the

[1]Die Rontgographie in der inneren Medicin. Herausgegeben von Professor H. v. Ziemssen und Professor H. Rieder, Wiesbaden, 1901.

pelvis and hips requires but twenty seconds. Kidney stones are brought out with great distinctness by this short exposure. The excursions of the diaphragm, the esophagus, stomach, and spleen, all show up with marvelous distinctness.

In photographing the bones, however, the intensifying screen is not so good because of a blurring of sharp outlines in the finer bone detail. The negative and prints have a granular appearance. Nor is it necessary, indeed, for instantaneous work is not required, and the powerful coil gives a sufficiently short exposure without any screen help. We now know that quantity of current is necessary for photographic work, and the sensitive plate responds in direct proportion to this quantity. Professor Goodspeed, of the University of Pennsylvania, has brought out a valuable point in a short paper which appeared in the *Philadelphia Medical Journal* of January 6, 1900, namely, the necessity of a large condenser capacity to enable the coil to be run with a comparatively slow rate of interruption, and thus to get the greatest output from the secondary. As he shows us, the time of break, the interval of the open circuit, must be long enough to enable the condenser to be charged and discharged before the succeeding "make," and the condenser must be of sufficient capacity to take up all the direct current of self-induction of the coil which tends to leap across the two platinum points, and to retard the suddenness of the break, and with a sufficient discharge back to rapidly demagnetize the iron core. It is only by a proper adjustment of this rate of interruption that the best output of the coil can be attained. And surely his uniformly beautiful skiagraphs prove the correctness of his reasoning. Queen & Co. have tested this principle very successfully. They have sent me a good skiagraph of an elbow done in seven seconds, and a shoulder done in forty-five seconds, this, of course, without any screen. With a screen it is practically instantaneous work. This, of course, applies to the Ruhmkorff type of coil, with the mechanical break. With the Wehnelt interrupter, which requires no condenser, or with the Kinraide model, which requires no iron core, the conditions are different.

From the chemical side no difference exists in *x*-ray photography over the ordinary light photography. That the development of the plate with the ordinary skiagraph is slower, is due to the lesser chemical effect on the silver salt. With the plate thoroughly exposed the development is as rapid as the ordinary plate, and in my own work I have given long exposures to cut short the time in the dark room. It is by the comparatively long exposure with the fairly high vacuum that we get the bone detail

next to the plate. We get a translucent shadow giving us the values of the different thicknesses of bone penetrated, and thus a perspective value, and it is a question whether such a skiagraph does not show us more than the stereoscopic skiagraph.

Absolute immobility of the part skiagraphed has never seemed to me to be sufficiently carried out. In my own work I have carried this almost to the point of stopping arterial pulsation, which must have some effect where the sharpness of the finer details is concerned.

It is perhaps a question whether, for the same time exposure, the comparatively slow interruptions of the Ruhmkorff type of coil, with mechanical break and large condenser capacity, as advised by Professor Goodspeed, will not give us sharper skiagraphs than the Wehnelt interrupter, or the high frequency coils of Tesla or Kinraide with their great induction effects, and perhaps greater generation of "parasite rays." The wonderfully short exposures by the Goodspeed method, as demonstrated by Queen & Co., show very fine results. If equal to the Wehnelt interrupter, the method is a preferable one, as the apparatus is easier to work, there is less strain on the tube, and it is less apt to get out of order.

With the improved coil and tube *x*-ray burns are now quite impossible, at least in photographic and screen work. In therapeutic work, however, there is this danger until we can more intelligently graduate the dose. Here much will depend upon the experience and judgment of the operator. The field of operation can be absolutely limited by the metallic screen, and the extent of the application by the operator's knowledge of the power of his apparatus and the patient's susceptibility. It is with this latter factor in the problem that error must creep in. The static machine is well adapted to this work, because, being less powerful, there is less danger of burns; other things being equal, it gives the patient a smaller dose, and it is always better to underdose than to overdose. The therapeutic application of the *x*-ray is assuming large proportions. It was natural to suppose that a form of energy which could cause so much local disturbance could also work for good in certain diseased conditions, and almost from the beginning the *x*-ray was tried for lupus and other skin troubles. It was soon found that not only much could be done for these diseases, but that more serious pathological conditions yielded to its influence. The journals are now full of reports of successes in this direction. Inoperable sarcomas have apparently been cured; carcinomas have also yielded to the treatment. As to the permanency of the cure, the

percentage of relapses, time alone will show. Its palliative effects have been abundantly shown, especially as an analgesic. Altogether the outlook is favorable to a certain definite curative power in the ray. It is its limitations which remain to be carefully ascertained.

To conclude, we may well rejoice over the progress which has been made in this new science since its discovery not yet seven years ago. This progress, as I have attempted to show, has been along the line of stronger currents through stronger tubes, with a more efficient focusing of the cathode ray, with the elimination of irregular convection current, with a better adjustment of the vacuum, all working toward the generation of more powerful *x*-rays. The coil which was the source of energy in the beginning still remains the best instrument for the purpose. To its perfection the practical electrician has directed all his efforts until it has become the perfected instrument it is to-day, and the vacuum tube has kept in step and in touch with it, each adapting itself to the requirements of the other. They both typify the genius of the age for invention and the marvels it has accomplished in the physical sciences.

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## THE X-RAY TREATMENT OF CANCERS.

BY JOHN W. DANIEL, M.D., SAVANNAH, GA.

In presenting this paper I would like to modify my original title somewhat, and have it a paper on "The X-Ray Treatment of Cancer and Lupus, with Provisional Cures."

My attention was called to the *x*-ray treatment of cancers by the numerous articles in medical and lay journals of the past year, with numerous encouraging reports. So having two cases of cancer and one of lupus on hand in December, 1901, I started treating them, but took care to make no rash promises of cures. The results have been a revelation to me. I will give a clinical report of my cases, number and time of exposures, and conclude by giving my personal observations.

*Apparatus.*—In the first place, I wish to say that in all of my cases I use the static machine, and not street current; secondly, that with a large area of infection I protect the normal tissues and only expose the diseased area. With small areas of infection I inclose the Crookes tube in a lead-lined box and expose the growth opposite a window in the box.

*Case 1.*—Female, aged forty-eight, white, married; nine children, all robust and in perfect health. No positive history of

cancer in family. One brother supposed to have died with cancer of stomach, one sister with cancer of intestines.

Patient's trouble began twenty-four years ago, following trauma of nose. Growth has been removed twice in New York Cancer Hospital, and area covered by flaps from face. The results were only temporary, disease soon reappearing and destroying tissue more rapidly than ever. Has also tried various plasters and escharotics, with only one result—increased rapidity of growth. Patient has suffered acute pain, and the disease has made rapid inroads upon her general condition as well as on her face (Fig. 1).

Patient applied to me on December 19, 1901, for treatment, at that time presenting a dirty, sloughing, foul-smelling sore, covering a triangular space bounded by lines extending from the

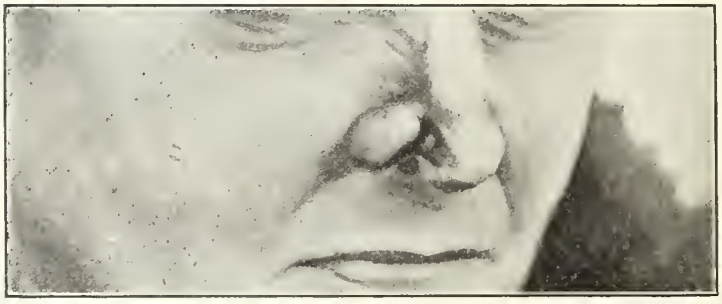

FIG. 1.

inner canthus of both eyes to angles of mouth, completely destroying all tissue within that area, bony and muscular. The first exposure was of ten minutes' duration, followed by similar exposures for succeeding three days, when treatment was suspended for two weeks, due to an accident to machine. Treatment was then resumed and continued for one week, each day giving exposures of ten minutes. At end of week lower lip and margin of sore presented a red and swollen appearance, and patient complained of pain, but only in the adjacent healthy tissues; diseased area gave no pain whatever. Treatment was again suspended for three weeks, when burned area resumed its normal condition.

February 8, 1902, treatment again resumed, now using a low tube, in lead-lined box and lead cone-shaped attachment, in order to circumscribe effects of rays. Length of exposure, three minutes. From February 8 to March 15, exposed patient every forty-eight hours, when treatment was again interrupted by illness of the patient, and since March 15 have only given five

exposures. At the present time the patient is experiencing no pain or discomfort, the mucocutaneous margins are normal, the mucous membranes are normal, and there is no odor, discharge or sloughing, and progress of growth seems to be arrested. In this case, as in others, I have noticed that after the first exposure all pain ceases, and after a few more exposures the abnormal secretions dry up and the progress of the disease is arrested. I have also noticed that in this case, which had a slight dermatitis, when the effects of the dermatitis were over the entire growth appeared to have healed. In this case, as in Case 3, on account of the close proximity of the growth to the eyes, the conjunctiva was the first tissue to show effects of burn, and was the last to recover, and gave more pain. But in Cases 1 and 3 the eyes

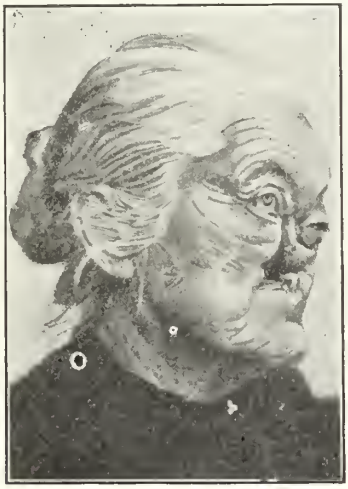

FIG. 2.

have recovered completely, without any apparent injury (Fig. 2). I found in these cases that the best treatment for the burn was to keep them smeared with olive oil. April 14, microscopic examination made of piece of tissue removed from base of nose, and cancer cells found, but are degenerating. This is the only place in which tissues have not assumed their normal condition.

*Case 2.*—Female, white, aged fifty-six, married. No history of any cutaneous trouble in family before. Growth diagnosed as lupus of nose by several physicians; as patient objected, no microscopic examination was made. Growth has no history of following trauma, is now of eighteen years' standing, starting as a small warty-like elevation on right ala of the nose;

spread very slowly, but was constantly sore and secreting and scabbing. Has been treated in various ways by both physicians and quacks, with only one result, of aggravating the disease. About thirteen years ago the left ala became involved, also two foci, near canthus of right eye.

Patient came in for treatment December 3, 1901. Protected her face with tin-foil mask, allowing diseased part of nose to protrude through except focus near eye. Gave first exposure December 3, twenty minutes, with tube ten inches from nose. December 5, gave second exposure at distance of six inches, also twenty minutes; noticed no effects. December 6, growth appeared dry and parched, was beginning to scab over; she experienced no pain or discomfort in growth. December 13, after daily exposures, patient complained of extreme dryness of nose, growth now beginning to shrivel and crack. Exposures were discontinued from December 17 to January 2, without any apparent retardation of cure. January 2, tenth exposure, and greater part of growth had disappeared, leaving healthy tissue. January 11, eleventh exposure; tip of nose was of normal size; left side of nose had only a small, dry scab; right side had still small, thin, brown crust, which seemed to be dropping off.

February 14. Discontinued exposures; nose seemed entirely well.

In this case the ray had no burning effect upon the normal skin, and sore areas all showed first evidence in healing by formation of dry, brown scab. In Case 1 there was never any scabbing, but parts gradually assumed a normal appearance.

*Case 3.*—In this case am sorry we have no photograph, as patient objected. Patient, male, aged fifty-six. No syphilitic history, no cancer or lupus in family. Growth started three years ago on left side of face about midway between eye and ear. Was first noticed as small pimple which was often cut in shaving. After about six months began growing rapidly, and soon became about size of half a dollar. Various physicians and quacks tried cures with no results. Consulted me on February 16, 1902. Diagnosed as lupus; no microscopic examination made, as patient objected. Began treatment day of first visit, exposing entire growth to low tube at distance of eight inches for five minutes. Continued these exposures until March 17, when entire scab formation dropped off after fifteen exposures. March 20, exposed again, with result that small scab formed at one point on circumference; spot was moist when first scab came off. After five more exposures of three minutes to low tube at six inches, second scab formation came off, and patient is apparently well. In this

case the total exposures were twenty—each about three to five minutes. Patient experienced no burn, pain, or discomfort from treatment.

*Case 4.*—Female, aged thirty-seven. Has growth on side of nose about size of silver half-dime; has been seven years since first appearance, spread slowly, gives no pain, but is constantly dry and scabbing. No microscopic examination made; patient timid and objected to piece being removed for examination. Has had the usual remedies applied without any success, and in fact for past eighteen months growth has become more active.

March 9, 1902, gave first exposure, five minutes, using low tube. Exposed March 10, 11, and 12, when growth was covered by very dry, thick, brown scab. Exposed again on 14th, when scab was somewhat loosened; on the 17th exposed again, and removed the scab, finding healthy skin underneath. Exposed again on 22d and 25th, without any scab formation, so dismissed patient as cured.

April 13, patient called at office, and there is hardly any perceptible scar. This case had a total of eight exposures with low tube; length, three minutes' time.

*Case 5.*—This case has been diagnosed as osteosarcoma, and has been of very rapid growth. There has existed a small ulcerated space at inner canthus of right eye for the past fifteen years, but with exception of being conscious of a sore existing, gave patient no special trouble. About two years ago, at the earnest solicitation of friends, he applied nitric acid to sore in order to promote granulation, with result that a rapid and malignant growth set up in a few weeks. Within twelve months growth very nearly assumed its present dimensions, which, as will be seen (Fig. 3), is a very formidable affair. Only for the past six months has there been much pain, but on December 20, 1901, patient called at my office asking relief from pain, stating that for the past four days his pain had been so excruciating that morphine would not produce ease, and he was incapacitated for work and could not sleep. I undertook the case with a definite understanding that I could promise nothing and would not be responsible for any burns. Growth was of bony hardness, and covered with a tense skin and a perfect network of arteries and veins; there was a decided bulging inside of mouth, so prominent that patient could not wear plate.

Gave first exposure of fifteen minutes with high tube, with result that patient stated before leaving my office that all pain was relieved. Exposure was given at 9 A.M., and patient went home and slept soundly until 8 P.M. without rousing. Gave second

exposure that night, and for following six days gave two exposures daily, each of fifteen minutes, or total of 195 minutes, with result that entire growth was burned, the balance of face being protected by a tin-foil mask. Treatment was discontinued for three weeks, when patient again returned for treatment with burn entirely healed and growth checked in rapid increase of size; complains of no pain, is able to work each day with perfect comfort, and sleeps without any drug assistance. Have been giving from one to two exposures a week since the burn, each of five minutes' time, as skin now seems very easily irritated, and responds to treatment each time with a decided blush and slight skin soreness, described as soreness of sunburn. The bony hard-

FIG. 3.

ness has almost entirely disappeared, only existing now in a few circumscribed areas; the remaining part of the mass is cystic and boggy; have used aspirator on it twice, and each time drew off a serosanguineous fluid. While in this case I still offer little hopes of a cure, the relief from pain is fully worth the time of treatment, and as the growth is degenerating and not increasing in size, the outlook is brighter.

*Case 6.*—Male, aged sixty, white. One uncle on father's side had cancer on neck, producing death. The area involved in this case, as can be seen, is considerable and of fifteen years' standing. For ten years growth was insignificant, but five years ago it took on a malignant form and increased rapidly until it reached the present size. The microscope shows this to be an epithelioma.

March 20, gave first exposure of five minutes with medium tube. March 21, gave second exposure; noticed that serosanguineous discharge had ceased, a thin crust had formed, odor had disappeared, and patient was perfectly comfortable; was so much relieved that he voluntarily discontinued his accustomed one-fourth grain of morphine each night. After nine exposures of five minutes each, entire surface was covered with thick, dry scab, which came off, leaving sore clean, free from pus, and apparently granulating. April 7, gave tenth exposure, and on 10th another scab had formed. April 13, second scab became detached. April 14, gave twelfth exposure, and had a microscopic examination made, with report of cancer cells still existing. In this case I did not hope to get a cure in twelve exposures, but the results

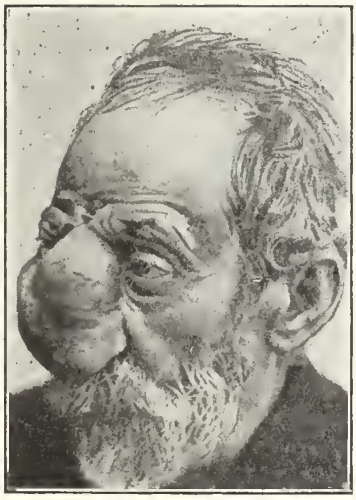

FIG. 4.

have been gratifying, so I hope to report a cure in a short time. One remarkable thing noticed in this case is that the beginning growth on left cheek, as seen in Fig. 4, is rapidly healing, having formed several scabs which have dropped off, leaving diseased area smaller each time. This area on left cheek has never been exposed to direct rays, as tube is always placed on right side.

Besides the six cases reported here, I have six more at present under treatment, but they have had only a few exposures; and while all pain and soreness has left all of them, they have not progressed so far that I feel warranted in stating anything positively in reference to a cure.

1. I have observed in all cases that the *first* exposure relieves all pain, decreases secretions, and produces some drying of the surface.

2. That six inches from tube is about the proper distance for exposures; that three to five minutes each day, until healing seems to begin, is the correct time for exposure.

3. That blonds and people with thin ruddy complexions set up an erythema more readily than brunettes.

4. That the static *x*-ray burn is nothing more than a dermatitis bullosa, and heals within a few days and requires no special treatment.

5. That in all cases of epithelioma the cancer cells begin to degenerate after a few exposures, as shown by the microscope.

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## MERCUROL AS A CHOLAGOGUE LAXATIVE.

BY H. E. SAUER, B.S., M.D.,

Associate in Gynecology, Medical Department, Northwestern University; Attending Surgeon, German Hospital; Attending Gynecologist, St. Luke's Hospital, Chicago, Ill.

I wish to report two series of clinical experiments in my wards in the German Hospital, with mercurol as a laxative in comparison with calomel. My assistants were instructed to note: (*a*) the amount of the drug necessary to produce a satisfactory bowel movement; (*b*) the time elapsing after the administration of the drug until the bowel movement; (*c*) the presence or absence of pain, griping, nausea, etc.; (*d*) amount, color, and consistency of the stools.

### FIRST SERIES.

*Case 1.*—Adult male; was given two grains of mercurol, and one hour later a second dose of two grains. Four hours later, after fairly severe griping, the patient had a large, well-formed bowel movement. Three hours later he had a large, soft, semi-formed bowel movement.

*Case 2.*—Adult female, with mitral regurgitation, was given mercurol, one grain every hour for six hours. There was no effect for six hours, when salts were given. Shortly after there was a large, liquid bowel movement attended with slight griping.

*Case 3.*—Aged female, with myocarditis, was given mercurol in quarter-grain doses, every hour for ten hours. She had a large, formed bowel movement at midnight, without pain or griping.

*Case 4.*—Adult male, recently operated upon for hernia, was given mercurol in one-grain doses, every hour for six hours. Five hours later he had a large, formed bowel movement without pain or griping.

A second series of experiments was made on eleven ward patients, mercurol in half-grain chocolate-coated tablets being given every ten minutes until ten tablets (five grains) had been taken.

The results were very satisfactory; copious, soft, semiformed stools, unattended with pain or griping, were obtained in every case.

SECOND SERIES.

*One-half grain tablets given every ten minutes until ten tablets were taken.*

| Case. | Name. | Time, A.M. | Pain and griping. | Number and time of bowel movement. | Character. | Remarks. |
|---|---|---|---|---|---|---|
| 1 | Mrs. W. | 7–8 | No. | 1 at 3 A.M. | Copious, semiformed, dark brown. | Vomited with eighth tablet. |
| 2 | Mrs. K. | 8–9 | No. | 1 at 1 P.M. | Copious, semiformed, dark brown. | |
| 3 | Mrs. B. | 7–8 | No. | 1 at 9 P.M. | Copious, semiformed, dark brown. | Was nauseated. |
| 4 | Mrs. G. | 7–8 | No. | 1 at 9 P.M. | Copious, semiformed, dark brown | Vomited three times. |
| 5 | Mrs. D. | 7–8 | No. | 1 at 2 P.M. | Copious, semiformed, dark brown. | |
| 6 | Mrs. M. | 7–8 | No. | 9 A.M., 2 P.M., and 3 P.M. | Semiformed to liquid and copious. | Vomited at 9.30 A.M. |
| 7 | Mrs. J. | 8–9 | No. | 1 at 1 P.M. | Black, formed. | |
| 8 | Mrs. V. | 8–9 | No. | 1 at 1 P.M. | Black, formed. | |
| 9 | Mrs. K. | 8–9 | No. | 1 at 3.30 and 5 P.M | Semiformed, dark brown | Second time. See Case 2, day before. |
| 10 | Mrs. D. | 8–9 | No. | 1 at 11 A.M. | Thin, light brown. | Second time See Case 5, second day before. |
| 11 | Mrs. D. | 9–11 | No. | 1 at 10 A.M. | Thin, dark brown. | Third time. See Case 10, day before. |

I wish to state that mercurol has undoubted value as a cholagogue laxative when properly administered; I do not hesitate to prescribe it whenever it is desirable to substitute some other mercurial for calomel.

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THE balance of $2200 of the fund raised for the entertainment of the American Medical Association, when it met at Atlantic City in 1900, has been placed at the disposal of the Atlantic City Hospital, says the *Journal of the American Medical Association*. The entertainment committee was indebted to Capt. John L. Young for $1250 for the use of his pier as a meeting place. He generously donated the whole of this amount to the hospital. It is proposed that the $2200 shall form the nucleus of a permanent fund for the benefit of the hospital.

# THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich.

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## EDITORIAL ARTICLES.

### RELIGIO MEDICI.

The excellent address delivered by Sir Frederick Treves to the students of University College is calculated to restore waning interest in the confessions of Sir Thomas Browne made 260 years ago. Browne wrote his Religio Medici, as he tells us, purely for his "private exercise and satisfaction," or as "a memorial unto himself." If it were not for its simple honesty it would not have lasted to serve as the basis for the discussion of a modern doctor's faith at the present day.

Browne held many ideas not exactly consistent with latter-day belief. He believed in "witches" and was apt to attribute to their influence manifestations he could not otherwise explain. While the belief in witchcraft as such has died out among enlightened nations, as a working hypothesis the theory of witchcraft might still be used to account for many of the malign influences with which the modern patient is beset. More interest attaches by contrast to the old writer's conception of disease—that it was a malignant entity individualized as evil in intent, origin, and effect. Like its prototype in the theological world, disease was considered to walk about like a roaring lion seeking whom he might devour. Such a conception was but little removed from the present-day conception of primitive peoples, who regard disease as a malignant spirit who entered into the body of a man and who was to be driven out by the beating of tom-toms, or by incantation or exorcism. If those who are sick to-day are not treated as if they were possessed of the devil, it is simply because the general idea of disease has changed. In olden days the symptoms of disease were evidence of the preternatural occupant of the patient's body. If the patient vomited, the vomiting must be stopped; if he coughed, the cough must be stopped; if he failed

to take food, he must be fed. To-day the conception of disease as a beneficent process may be exemplified by a case of tuberculosis. In some way the patient's body is invaded by the tubercle bacillus. The symptoms which follow this are the expressions of a beneficent process, which has for its end not the destruction but the cure of the patient. They are attempts on the part of the body to drive out the invader, to eliminate the parasite, and to preserve by inflammatory changes the structural integrity of affected parts. The whole trend of modern pathology is, indeed, to reverse the view held by Browne, and to regard disease as a beneficent process having for its ultimate end the preservation of the patient's life.

Far more valuable than his views of intrinsic pathology, because less founded on the quicksands of current dogmatism, are the old writer's views of the attitude of the medical man to his patient. Here his advice rests on the sure and safe foundation of his own experience. The physician must have strength and resource—not the strength that wields a bludgeon, but that which guides the deft hand of the fencer. All knowledge is useful to him in attaining this strength. The widening influence of general culture will expand his sympathy, and lead him to have his highest qualification for success, a tactful and sympathetic knowledge of his fellow man. It is possible for a physician to know all there is to be known of a patient's disease, and yet have no knowledge of the patient himself. The second great need is fidelity. All who profess to attend upon the sick undertake a solemn trust, to be fulfilled with punctilious care. The burden of such a trust is little appreciated beyond the confines of the medical profession, and every physician of experience has had to learn with some bitterness how much self-denial and self-effacement this trust implies. The third great qualification, the old writer says, is to be kind. The physician must be able by his wide sympathy to put himself in his patient's place. There can be no art in this that can be learned. Genuine sympathy cannot be assumed. If it is its artificiality is so apparent as not to deceive a child. In the treatment of the sick kindness of heart is an essential factor, and it can never be replaced by any assumption of manner, however well it may simulate, or however precisely it may mimic.

Sir Thomas Browne's Religio Medici will long remain a cherished heirloom, and there is little doubt of its real popularity suffering any eclipse. Pathological theories may come and go, therapeutical novelties pass in stately procession, but strength and faith and kindness will be required so long as mankind is weak enough not to do without them.

## EDITORIAL NOTES.

### The Late Dr. Abel Phelps.

By the death of Dr. Phelps, of New York, in that city October 6, after an operation for abdominal trouble, the country has lost one of its best known orthopedic specialists. October 4 a minor operation was performed which gave temporary relief without curing the disease, and it was deemed expedient to perform another and more serious operation on the Monday following.

Dr. Phelps was born at Alburg Springs, Vt., on January 27, 1851. He entered the University of Michigan, with the intention of qualifying as a civil engineer, but later engaged in the study of medicine, for which he had shown a strong inclination, graduating in 1873. From 1880 to 1884 he still further qualified himself for the profession which he loved so well by studying surgery in the leading schools of Europe under such eminent men as Schede, Esmarch, Von Volkman, Billroth, and Thiersch.

Dr. Phelps's chief contributions to surgery and orthopedic surgery were his operation for hernia, which differs from all others, in that it obliterates and fortifies the inguinal canal with a mattress of fine silver wire, while all of the stitching is done with a very fine wire in a continuous suture; his club-foot operation of open incision, which was introduced to the profession in 1889; his lateral traction fixation hip-splint, aluminum corset, and a variety of other braces and mechanical contrivances for the treatment of diseases of the joint and deformities—all of which are well known to the profession.

### The Serum Treatment of Whooping-cough.

The latest addition to serum therapy is a serum for the treatment of whooping-cough. The discovery has been made by Dr. Leureaux, a physician in Brussels. The injections are made in the abdominal region, and from the experiments already made by Leureaux no untoward symptoms have resulted. The effects of an injection of the serum are noticeable in about forty-eight hours. The discoverer claims that if the injections are made immediately upon the manifestations of the usual symptoms, the disease can be cured in eight or ten days. Should Leureaux's claims be substantiated by further clinical evidence, this serum will soon find favor in the hands of the profession in the treatment of this distressing malady of childhood.

# ITEMS AND NOTES.

THE typhoid epidemic in Chicago is now practically at an end.

A NEW orthopedic hospital in Toronto has been formally opened.

FOUR HUNDRED of the 1000 students attending the University of McGill this year are studying medicine.

A TABLET has been erected in Faviero, France, to Dr. Liebeault, the creator of the Nancy School of Hypnotic Therapeutics.

MUCH apprehension has been caused by the persistence of the plague in Odessa and other towns in the southern part of Russia.

A TUBERCULOSIS commission has been recently appointed by the governor of Maryland which will inquire into the causes and spread of consumption in that city.

THE Northwestern University has purchased the Tremont House hotel, an old landmark in Chicago, and will use it for its schools of law, dentistry, and pharmacy.

THE death of Dr. Barend Joseph Stokis, of Amsterdam, professor first of pathology, and later of pharmacology, in the University of Amsterdam, took place recently.

LONDON has 6500 beds for the treatment of infectious diseases, or one bed for each thousand of population. New York City has only 750 such beds, or one for each five thousand.

A NUMBER of prominent physicians of Washington, D. C., among whom is Surgeon-General Sternberg, U. S. A., retired, have taken steps toward the formation of a post-graduate medical school in that city.

THERE was recently organized at Burlington, Vermont, by a number of physicians and laymen, an association under the name of the Vermont Society for the Study and Prevention of Tuberculosis.

MAJOR WILLIAM GORGAS, surgeon of the United States army, has been designated by the surgeon-general to represent this country at the coming Egyptian congress, which is to be held at Cairo, December 16, 1902.

Recently a court of special sessions in New York City fined a clergyman for practicing medicine without a license. The minister was secretary of a company called the Interdenominational Committee for the suppression of the drug habit.

Plans have been completed for a new hospital for sick deaf-mutes of New York City. The hospital will be built on the grounds of the New York institution for the instruction of the deaf and dumb, and will cost in the neighborhood of $100,000.

Surgeon-General Wyman in a recent interview made the following statement: "I do not believe that there is more disease this year than usual. The difference is that in these days of rapid transmission of news we hear more of the ills of our distant neighbors than formerly, which makes it appear that the world is in the grasp of pestilence. We now hear almost instantly of an outbreak of a scourge where formerly all would be silence."

A Berlin physician, probably a sufferer himself, says an exchange, has announced that a tendency to redness of the nose, due to fugitive erythema, either from internal or external causes, may be cured by benzine applications. He applies the benzine on a folded piece of lint, kept upon the erythematous area a few seconds without causing friction. When this is repeated a few times the skin covering the nose becomes paler and less shiny. Applications of benzine may also be made prophylactically.

The London Medical School for Women reports a steady progress for the past year, says an exchange. At the annual distribution of prizes which took place recently a scholarship of £60 a year was given by the governors of the endowed charities of St. Dunstan's-in-the-East. Other scholarships of equal and some of greater value were also assigned. A due proportion of the students passed the examinations, and a number have accepted important appointments not only in England but in other countries. Two new appointments of resident surgeon and physician in the Royal Free Hospital have been filled by women, and a large number of old students have received public appointments during the year.

Surgeon-General Forwood has, according to an exchange, received recent advices that dysentery, which heretofore has caused more sickness and deaths than any other disease among the troops in the Philippines, has practically disappeared. It has

succumbed to the strenuous efforts of the medical department for its eradication. Strict sanitary measures have been enforced, including the boiling of all drinking-water, and rules for bathing, and particularly the washing of hands before handling food. Another source of great satisfaction to the medical department is the eradication of a tropical skin disease commonly called "dhobie itch." This disease, while not fatal, was considered almost in the nature of a scourge among the troops in the islands.

In a paper read before the Paris Academy of Medicine, Dr. Solners seeks to establish, says *American Medicine,* a correlation between the increase of insanity and the dissemination of knowledge. According to his theory, which is plausibly built on close observation of numerous incidents, education acts upon certain brains in such a way as to produce cerebral disorders. In fact, even the superficial knowledge as imparted in the lower schools or absorbed from newspapers is considered sufficient to cause minor crevices in the gray matter, giving rise to many forms of insanity not as yet catalogued. For illustration he cites a list of abnormal happenings in a single week together with many other instances, from which he deduces that the human race is chiefly composed of latent lunatics.

La Societe Francaise d'Histoire de la Medecine, of Paris, celebrated on July 22 the centenary of the death of Bichat. There were present, says *American Medicine,* at the memorial exercises representatives of the Faculty of Medicine and of the principal learned societies. Professor Blanchard delivered an address in the morning at Père Lachaise. In the afternoon a tablet was placed on the house 14 Rue Chanoinesse, in which Bichat died. A commemorative medal bearing the effigy of Bichat was struck for the occasion. Marie Francois Xavier Bichat, physician and anatomist, founder of histology and pathologic anatomy, was born at Thoirette, in the Department of Jura, France, November 11, 1771, and died in Paris July 22, 1802, of tuberculosis. He was the most capable physician of his time, and has been called "the Napoleon of medicine." He distinguished the vital properties of sensibility and contractility, and together with Goodwin, Hessenfranz, and Lavoisier, he established the mechanism and purpose of respiration. He made clear the differences between the various tissues, showed the layers of the stomach, and proposed that the nervous system be divided into cerebrospinal and sympathetic. He is the author of the aphorism, "Take away some fevers and nervous troubles, and all else falls into the kingdom of pathologic anatomy."

# NEW PUBLICATIONS.

## THE THEORY AND PRACTICE OF INFANT FEEDING, WITH NOTES ON DEVELOPMENT.

Dr. Chapin in this very admirable treatise on infant feeding describes with great care the fundamental principles of growth, nutrition, and digestion during infancy. The author has divided his book into four parts: on the underlying principles of nutrition, raw food materials, practical feeding, and the growth and development of infants. In the part devoted to practical feeding will be found much that will be of interest to the practitioner. Dr. Chapin maintains that anything other than breast milk will cause grave digestive disturbance in the infant. This statement will doubtless be concurred in by the majority of physicians. The author has done his work in a concise and thorough manner, and its careful reading will repay the practitioner.

The Theory and Practice of Infant Feeding, with Notes on Development. By Henry Dwight Chapin, A.M., M.D., Professor of Diseases of Children at the New York Post-Graduate Medical School and Hospital; Attending Physician to the Post-Graduate, Willard Parker, and Riverside Hospitals; Consulting Physician to the Randall's Island Hospital. New York: William Wood & Co., 1902.

## KIRKE'S HANDBOOK OF PHYSIOLOGY.

The seventeenth American edition of this deservedly popular and well known text-book on physiology has been revised by Wm. H. Rockwell and Chas. L. Dana. The editors have brought the book fully up to date by including all of the most recent facts that have been discovered relative to this science. The volume contains upwards of five hundred illustrations, including many in colors. As a working text-book on the subject for students and practitioners alike, Kirke's Physiology has few equals and no superiors.

Kirke's Handbook of Physiology. Revised by William H. Rockwell, Jr., M.D., and Charles L. Dana, A.M., M.D., Professor of Diseases of the Nervous System, Cornell University Medical College, New York; Physician to Bellevue Hospital; Neurologist to the Montefiore Home. New York: William Wood & Co., 1902.

## A COMPEND OF HUMAN PHYSIOLOGY.

The eleventh edition of this compend has been revised and enlarged. This little manual will be found to be complete in all respects, giving as it does in condensed form all the practical points of the subject of physiology. The fact that it has gone through so many editions is proof conclusive of its value and popularity with students of medicine.

A Compend of Physiology. Especially Adapted for the Use of Medical Students. By Albert P. Brubaker, A.M., M.D., Adjunct Professor of Physiology and Hygiene in the Jefferson Medical College; Professor of Physiology in the Pennsylvania College of Dental Surgery; Lecturer on Anatomy and Physiology in the Drexel Institute of Art, Science, and Industry; Fellow of the College of Physicians of Philadelphia. Eleventh Edition, Revised and Enlarged, with Illustrations and a Table of Physiologic Constants. Philadelphia: P. Blakiston's Son & Co., 1902.

# THE PROGRESS OF MEDICAL SCIENCE.

## SURGERY.

### Adrenalin in Genito-urinary Surgery.

Von Frisch (*Wien. Klin. Woch.*, July 31, 1902; *British Medical Journal*, Oct. 11, 1902) employed the solution of the active principle of the suprarenal glands, known commercially as adrenalin (adrenal. hydrochlor. 0.5, sodii chlorid. 0.6, chloretone 0.5, aq. destill. 1000), in various urological conditions with satisfactory results. Thus in vesical hematuria it may be impossible, even with an irrigating cystoscope, to obtain more than a momentary glimpse of the mucous membrane. By the injection of 100 to 150 cubic centimeters of a 1-in-10,000 solution of adrenalin, which is allowed to remain in the bladder for three or four minutes, the hemorrhage is arrested, the vesical contents become clear, and a satisfactory view is obtained. A similar injection succeeds admirably in endoscopic removal of vesical papillomata. In the removal of vesical tumors by suprapubic cystotomy the repeated application of a 1-in-1000 solution of adrenalin to the tumor and the parts surrounding it enables the operation to be performed practically without hemorrhage. As a thorough inspection of the parts is therefore possible, the complete removal of the tumor is assured, and in the case of multiple papillomata, the danger of the smaller tumors being overlooked is obviated. The anemia of the mucosa is, however, transitory, and to prevent secondary hemorrhage the wounds should be thoroughly cauterized and the bladder plugged.

Adrenalin is also useful as an aid to catheterism in tight strictures. The application of a few drops of a 1-in-1000 solution below the orifice of the stricture causes the congestive swelling of the mucous membrane to subside, so that a catheter is comparatively easily introduced. Similarly in difficult catheterism in prostatic hypertrophy, the previous instillation of one or two cubic centimeters of the 1-in-1000 solution into the prostatic urethra is of great advantage. Not only is the introduction of a catheter easier, but hemorrhage is obviated or greatly lessened. Cocaine may be employed for the same purpose, but is less effectual. In acute retention of the urine from enlarged prostate the introduction of two cubic centimeters of the adrenalin solution usually enables the patient to pass at least a few drops

of urine. The moral effect of this is great, as prostatic retention is usually aggravated by nervous spasm of the sphincter vesicæ. In one of the writer's cases 17½ ounces of urine was passed on the day of the injection of adrenalin. The injections should be repeated daily until micturition is normal.

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## On the Avoidance of Shock in Major Amputations by Cocainization of Large Nerve Trunks Preliminary to Their Division.

Harvey Cushing (*Annals of Surgery*, September, 1902) says that by common usage the term "shock" has come to represent a peculiar state of depression of the normal activities of the central nervous system. Such a condition is ordinarily brought about by traumatism, of one sort or another, to peripheral afferent nerves. In order to produce shock, the impulses resulting from this traumatism must have acted reflexly upon the vasomotor mechanism in the medulla in such a way as to occasion a marked fall in blood-pressure. This diminution of arterial tension is the most characteristic symptom of shock.

Under ordinary circumstances injuries of only moderate severity to peripheral nerves cause a rise in blood-pressure. If, on the other hand, these injuries are extensive or frequently repeated, or if they are complicated by certain primary or secondary anemias, they are commonly productive of a fall in blood-pressure, indicating a state of shock.

Shock consequently need not be occasioned even in most extensive surgical procedures on the extremities, provided due regard is given to perfect hemostasis. In operations of considerable magnitude, however, during which the division of many large nerve trunks becomes necessary, or in operating upon such traumatic cases as have been already complicated by extensive injury to peripheral sensory nerves, so-called operative shock is rarely avoided.

When, therefore, any condition is existent which predisposes to shock, such as loss of blood, prolonged anesthesia, etc., or when a certain degree of shock is already present before operation, especial risk is attendant upon the division of important sensory nerve trunks.

Cocaine injected into a nerve trunk effectually blocks the transmission of all centripetal or sensory impulses. Cocainization, therefore, of main trunks of nerves central to the proposed site of their division in a major amputation prevents the conduction of those impulses resulting from the traumatic insult which

otherwise, by acting reflexly through the medullary centers, might become the chief factors in the production of shock.

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### Gall-stones as a Surgical Affection.

Surgical treatment is indicated, according to S. H. Weeks (*American Journal of Gynecology and Surgery,* October, 1902), when the attacks are very frequent and severe, when jaundice is very marked, and when there is evidence of suppurative inflammation in the gall-bladder or its neighborhood.

Severe cholemia is apt to weaken the heart and predispose to hemorrhage, but as a rule even badly jaundiced patients bear operation well.

If a calculus is impacted in the cystic duct, the gall-bladder is to be opened and the stone removed. If it is possible to extract it the stone may be crushed in the duct and removed in pieces, or may be broken by padded forceps outside of the duct; or it may be necessary to open the duct to allow its escape—a very dangerous procedure on account of infection.

After removal of the stones the gall-bladder may be closed by Lembert sutures and dropped, if not the site of suppurative inflammation. But in most cases it is wise to stitch the sides of the opening to the parietal peritoneum and put in gauze drainage for two or three days. If there is no sign of trouble when the gauze is removed the opening may be closed by tying sutures introduced for that purpose at time of operation.

If the gall-bladder is inflamed it may be treated by either total extirpation or by long-continued drainage with irrigation.

If the stone is in the common duct it must be removed by opening the duct (choledochotomy). The incision may be sutured, or carefully drained if suturing be impossible. Before incising the duct an attempt should be made to push the stone back into the bladder (from which it may be much more safely removed), or onward into the intestine. McBurney has successfully removed a calculus from the common duct by incising the duodenum and stretching or incising the orifice of the duct.

When the obstruction in the duct has existed so long as to produce permanent obliteration, an outlet for the bile must be provided. This may be accomplished by making a permanent external fistula or by performing cholecystenterostomy, preferably by means of a Murphy button—anastomosis by suture giving a mortality of thirty per cent, while by the use of Murphy's button forty-seven cases gave but two deaths.

### Orchitis and Prostatic Disease.

Desnos has published (*Medical Press,* Oct. 8, 1902) an important article on infections of the epididymis and the testicle in patients suffering from disease of the prostate. Orchitis in such cases can be met with in two forms: one, the simple, produces an inflammatory swelling of the epididymis or the testicle; the neighboring cellular tissue is the seat of edema, and the tunica vaginalis of moderate effusion. All these symptoms yield promptly to treatment, but frequently the hydrocele persists, and some induration of the epididymis. The other form is much more grave, as it consists in numerous small abscesses scattered over the region produced by the infection, and if not treated the patients succumb from exhaustion. Under the influence of the infection one of the lobes of the prostate becomes swollen and painful, and frequently abscesses are found.

The treatment depends on the origin of the orchitis. If it appears in the course of general urinary infection, the surgeon is disarmed, and can only attempt to sustain the general condition of the patient and to open the collections of matter as they are found. When the infection reaches the testicle through the vas deferens, a cure may be hoped for; if only one abscess exists a simple incision suffices, but where they are multiplied castration should be performed.

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### The Indications in Uterine Cancer.

Dr. W. M. Conant (*American Journal of Gynecology and Surgery,* October, 1902) says that cancer of the uterus is generally met in one of two forms: the squamous-cell carcinoma (usually found in the cervix) and the adenocarcinoma (most commonly seen in the body). The prognosis is most favorable in the latter, and least favorable in adenocarcinoma of the cervix. In looking over a mass of statistics, one is somewhat appalled by the fact that the percentage of permanent cures is so small. But if one looks over a series of cases and picks out adenocarcinoma of the body (malignant adenoma), he will be surprised to see how large a percentage of cures there are after three years. It seems, therefore, that in the most favorable form of malignant disease, and also in the squamous-cell variety when confined to the cervix, if the diagnosis is made early, we may expect a large percentage of cures. Hence Conant concludes that in all cases of cancer which are seen early, either of the cervix or the fundus, where nothing can be felt outside of the uterus, a radical operation should be performed.

### Infrapubic Section for Prostatectomy.

E. W. Andrews (*Boston Medical and Surgical Journal,* Oct. 16, 1902) draws the following conclusions: (1) The narrowness of the male pelvic outlet becomes surgically important with the overgrown prostate. (2) Overgrowth of prostate does not cause obstruction unless there is also outside pressure. (3) This may come from the ligaments and muscles without the organ actually pressing upon the ischia, or from bony pressure. (4) Relieving the prostate from the fixed space behind the pubis allows it to expand and cures the obstruction. (5) This can be done best by an anterior incision, and should be accompanied by a cutting of the prostatic ring and removing a segment extra-urethrally. (6) Incidentally, the change of position, lowering the bladder outlet, does away with the retroprostatic pouch, and greatly assists natural drainage. (7) The separation of the prostatic and urethral ligaments from the pubis, and the weakening of the urogenital diaphragm, is not to be avoided, but sought.

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## MEDICINE.

### A New Method of Staining the Malarial Parasites.

Chas. F. Craig (*New York Medical Journal,* Sept. 13, 1902) describes a method for the staining of malarial parasites. Two solutions are employed, as follows:

*Solution A:* A saturated aqueous solution of methyl violet B (Dr. G. Grubler & Co., Leipsic). This solution should be prepared with distilled water and should be at least three weeks old.

*Solution B:* A five-per-cent solution of eosin (Dr. G. Grubler & Co., Leipsic).

The method pursued in staining specimens is as follows: Very thin blood smears are made upon perfectly clean cover-glasses. These smears are hardened in absolute alcohol for from five to ten minutes. They are next carefully dried and stained with solution A for ten seconds; then thoroughly washed in water and stained with solution B for from three to five seconds. The specimens are finally carefully dried and mounted in Canada balsam. As will be seen, the time for staining is very short, which is an improvement over the valuable methods which have heretofore been proposed.

In conclusion Craig says: "This stain differentiates the

malarial parasites very beautifully, both in the younger stages and in the segmenting and crescent stage. From a diagnostic standpoint the method is valuable, in that the staining of the parasites is so distinctive. However, it cannot replace the examination of the fresh blood for this purpose, and I believe that no method ever will do so. For the diagnosis of the malarial parasites there is no method so sure, so simple, and so scientific as the examination of the fresh blood. For the study of the finer structure of the parasites, however, this method is, I believe, a most valuable one, as it differentiates so distinctly the protoplasm, nucleus, and chromatin. The method is easy of application, rapid, and the results obtained are very uniform. It will be found, I believe, to be a valuable addition to our staining methods for the malarial parasites."

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## Cardiac Asthenia.

Lupus has recently published (*Medical Press,* Sept. 24, 1902) an able article on the symptoms or stigmata of cardiac asthenia—that is to say, potential insufficiency of the heart. Amongst the most characteristic symptoms he mentions the inclination to yawning, especially in the morning and during the afternoon. The nights are bad, sleep superficial, and the patient rises in the morning tired.

Another sign is the imperfect peripheric nutrition of the body, revealing itself by continual exfoliation of the scalp, pityriasis, and the falling of the hair, of which the bulb, badly nourished, is extracted by the slightest effort, especially in women. Such persons become gray prematurely.

The influence of the heart on the bladder is well known. In asthenic patients there is more or less considerable stagnation of urine in the bladder on account of the low tone of the heart and the weak muscular contractibility of the bladder, but what is less known is the more frequent desire to micturate on account of the greater impressionability of the urinary receptacle.

Women suffering from cardiac asthenia frequently complain of pain in the sole of the foot and the heel. They imagine that they have been pricked by nails in their boots and continually examine them, but naturally none are found.

Other striking characteristics are palpitation, weakness in the limbs, especially felt in mounting stairs, and fear. Children, for instance, suffering from the affection are great cowards, afraid of darkness, etc.

The treatment should naturally be that of raising the muscu-

lar tonus of the heart. Small doses of digitalis, sparteine or convallarine, combined with nitroglycerin, will render good service. Professor Lupus recommends highly for the same purpose iodide, associated with tannin, as found in walnut leaves in the organic state. Consequently, preparations of walnut leaves, either in the form of decoction or extract, if given a prolonged trial, constitute the best treatment of the affection in question, especially in the case of children.

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### Trichobezoars or Hair Balls in the Stomach.

Cathelin (*Bull. et Mem. de la Soc. Anat. de Paris; Lancet* Sept. 27, 1902) has collected twenty-one reports of hair balls found in the stomach. All the patients were women, the majority young girls, of whom three or four were under thirteen. In several cases gastrotomy had been done, always with success; under this category are included Knowsley Thornton's well known case, also Schonhern's, which is the earliest (1883). Among the more recent are Siraud's (1901), Jacobson's (1900), Schopf's (1899), and Herbert Bruce's, of Toronto (*Canada Lancet,* November, 1901). Bruce's case was very remarkable, as the mass of felted hair was of considerable length, tailing off into the duodenum. In this instance there was no hysteria, more or less the rule, and no marked discomfort. Diagnosis is extremely difficult; movable kidney and spleen, hydatid of pancreas, etc., have been suspected, but occasionally a history of hair-swallowing may vindicate the truth. In one instance, that of a girl suffering from influenza, great masses of hair were swallowed. It ultimately formed a mass two pounds in weight and as big as a cocoanut. After gastrotomy she showed no signs of insanity, or of any neurosis. Talamon relates a case of wool-eating. The patient was a milliner under eighteen, who took to swallowing pieces of wool from her neckerchief until she had consumed the whole within a month.

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### Myopsychoses, or the Association of Muscular Troubles with Mental Troubles.

Joffroy (*Rev. Neurol.; British Medical Journal,* April 15, 1902) points out a fact which has almost been ignored by clinical neurologists, that many so-called myopathies and neuromuscular affections are associated with mental troubles. Thus, Sydenham's chorea (of children) is almost always accompanied by

mental dulness or defect of intelligence, while in Huntingdon's chorea (of adults, generally pregnant women) there is much irritability and excitement, often amounting to mania. Paralysis agitans is accompanied by a mental defect—a moderate degree of dementia and apathy—while the automatic movements and cataleptic attitudes of adolescents with mental trouble (adolescent insanity) often are the outcome of a profound degree of stupor with great mental obscuration and confusion. Since Duchenne, of Boulogne, recorded five or six examples of it forty years ago, progressive muscular atrophy has since then been recognized as being accompanied by defective intellectual development with mental symptoms sometimes recalling those of imbecility. Other observers have recorded examples of the same since Duchenne. Pseudohypertrophic paralysis of children is associated with feebleness or defect of mind, as was pointed out by Schutzenberger, who described such cases in 1862, and by Benedikt, of Vienna, in 1864. Many other observers have since recorded cases of the last two forms of neuromyopathy—neuromyopathy with associated mental troubles—for example, Westphal (1886), Spitzka (1890-92), Fabre (Thèse de Montpellier, 1896-97), and the author himself. Joffroy proposes for such association of motor and mental symptoms the term "myopsychy" or "myopsychopathy."

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## Relation of Bacteriolytic Enzymes to Acquired Immunity.

Petrie (*Journal of Pathology and Bacteriology,* June, 1902) criticizes the researches of Emmerich and Loew on bacteriolytic enzymes, and the conclusions which these observers drew from them. They described the development of bacteriolytic ferments in cultures and gave particular attention to that developed in cultures of the bacillus pyocyaneus, to which they gave the name pyocyanase. They believed that this possessed bacteriolytic properties for other organisms, and that when injected into the animal body it formed a combination with the albumen of the tissues, which was the chief agent in cases of artificial immunity. Petrie maintains as a result of series of experiments that the described bacteriolysis is not a true bacteriolysis, but that the destruction of the organisms in cultures is due to purely osmotic causes, not to any specific action of the proteolytic enzymes developed. This contention has been upheld by others; its truth causes the other assertions of Emmerich and Loew to fail in the significance

which they gave to them. Even if not true, it would be impossible to accept their view of the production of an active immunizing agent by the combination of enzymes with albumens in the body; if this were so, the enzyme would be rendered incapable of forming other combinations, and so of exerting specific action on cellular or other elements.

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### Inflammation of the Diaphragm Complicating Pneumonia.

C. W. G. Rohrer *(Maryland Medical Journal,* September, 1902) says that inflammation of the diaphragm is a common complication of pneumonia. In most of those cases in which it is not found, it will be observed that the specimen was obtained from a part of the diaphragm remote from the inflamed lung. Extension of the inflammatory process from the pneumonic lung to the diaphragm takes place in two or three ways: (*a*) by direct extension; (*b*) by the lymphatics; (*c*) by the blood-vascular system.

To inflammation of the diaphragm is due in large part the so-called "pleuritic stitch-pain," also the pain in the abdomen often complained of, especially by children. When the patient lies on the affected side the pain is diminished, because there is less motion of the chest wall and diaphragm in that position. The dyspnea of frequency, always present in pneumonia, is due in large part to the patient's efforts to restrict the movements of the diaphragm.

The inflammation especially involves the muscular substance of the diaphragm, and may be mild or intense, in keeping with the grade and extent of the pneumonic condition. It is of bacterial origin, the usual microörganism being the pneumococcus.

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## THERAPEUTICS.

### Tuberculosis and Carbonic Acid.

Weber (*Medical Press,* Oct. 15, 1902) supports the view that carbonic acid is a cure for tuberculosis: he adduces much direct evidence to support the theory. Tuberculosis of the lung usually commences in the apices when the supply of venous blood is scanty. Hamburger supported this theory by experiment, since he found that venous blood was a potent bactericide, while

arterial blood encouraged the growth of bacteria. Bier has also proved in surgery that congestion of the osseous vessels cures tuberculous bone. Again, heart disease is a powerful immunizing agent in producing passive congestion and hyperemia of the lung, thus preventing phthisis. During pregnancy the wasting of the lung is usually checked by a retention of the carbonic acid in the blood. In diabetes, on the other hand, we find that half the sufferers die from phthisis due probably to the elimination of the carbonic acid in the form of sugar.

The production of fat and carbonic acid may be regarded as collateral terms, since phthisis commences with a great and rapid loss of fat, while recovery is heralded by an increase of fat. When diet of easily burned material is used, such as levulose, there is not only an increase of fat but a large amount of carbonic acid produced, which exerts a specific action on the tuberculous bacilli.

We may conclude therefore that increased nutrition increases the carbonic acid in the system, and thereby acts as a toxin and affords protection. From this reasoning the most rational treatment would be by injecting a carbonaceous fluid, such as paraffinum liquidum purissimum, to increase the carbonic acid.

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## The Action of Quinine on the Ameba, and Its Bearing on the Treatment of Liver Abscess.

L. Rogers *(British Medical Journal,* Sept. 20, 1902) says that the ameba is constantly found in an active condition in the wall of tropical abscess of the liver, although frequently absent from the pus in its cavity. The ameba is the only organism constantly found in such abscesses.

Staphylococci and other pyogenic bacteria are absent from the pus in the great majority of cases when the abscess is first opened.

In cases of which a complete record is available there is either a history of dysentery or lesions of this disease found post mortem in over ninety per cent of the cases, and it cannot be certainly excluded in the remainder.

The dysentery precedes the liver abscess or lesions in the large bowel of an antecedent date, and are found post mortem in ninety-five per cent of the cases.

The form of bowel disease associated with the large tropical or amebic abscess of the liver is amebic dysentery.

Severe sloughing forms of catarrhal dysentery may be associated with small multiple pyemic abscesses, which is a totally

distinct condition from tropical or amebic abscess, and is very rarely recognized during life.

Quinine solutions rapidly destroy the ameba, and may be used with advantage in washing out liver abscesses after they have been opened. They are also worthy of a trial as injections after aspiration of the pus as a possible curative measure, especially in such cases as are found to be free from the ordinary pyogenic organisms.

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### The Use of Antitoxin in Diphtheria.

C. G. Kerley (*Archives of Pediatrics,* October, 1902) says the death-rate in diphtheria may be reduced to a very small percentage by the early use of full doses of antitoxin, not less than 3000 units, which should be given during the first twenty-four hours if possible. This amount is to be repeated without hesitancy if improvement is not promptly observed. When in doubt, intubate; so when in doubt, inject. This Kerley practices and teaches. About twenty per cent of the cases develop urticaria, which is annoying for a few days. He has noticed no other unpleasant results from the use of the serum. He would establish the following principles:

With visible membrane inject at once, and take a culture.

In croup, inject if there is inspiratory and expiratory obstruction.

The patients should be seen at twelve-hour intervals.

Reinject in twelve hours if the patient is not improved, or if improvement is not marked.

If continued improvement does not follow, reinject at twelve-hour intervals until the membrane disappears.

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## OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

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### A Report of Nine Cases in which Haab's Magnet was Used for the Extraction of Foreign Bodies from the Eye.

Holmes Spicer and A. F. Maccallen (*British Medical Journal,* Jan. 18, 1902) have from their experience drawn the following conclusions:

1. When the patient is brought up to the magnet it is the rule for severe pain to be experienced by him if a magnetizable particle is present in the globe. Haab's magnet is therefore of valuable diagnostic service in determining the presence or absence of a magnetizable particle.

2. Localization by the *x*-rays is extremely important, By their means it is sometimes possible to avoid injury to the clear lens in the extraction of a foreign body, and entanglement of the iris can be avoided if its precise situation is known. Nevertheless, if some delay is unavoidable before the *x*-rays can be applied, they advise in certain cases extraction of the foreign body by the Haab magnet without precise localization: *e.g.* (1) in which there is considerable inflammation; (2) in which there is a recent traumatic cataract. In each of these cases there is considerable danger in delay.

3. If there is a recent wound the authors attempt to remove the foreign body through it, using Haab's magnet alone. If this wound has firmly healed it is necessary to make an opening for its exit. This may be either corneal, in which case the foreign body is withdrawn by Haab's magnet; or peripheral, in which case they usually employ the small magnet for the removal of the foreign body from the anterior chamber after it has been drawn forward by Haab's magnet. The latter method is the one generally adopted.

4. In all cases it is most essential that entanglement of the particle in the iris and ciliary body should be avoided. By bringing the patient up to the magnet gradually from a distance, and by increasing the strength of the current slowly, this is to a certain extent guarded against. The idea of this maneuver is to prevent the particle from rushing forward from its posterior position and burying itself in the iris.

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### The Disappearance of Opacities of the Crystalline Lens.

W. L. Pyle (*Journal of the American Medical Association*, Oct. 18, 1902) says there is no question as to the authenticity of many reports of the spontaneous disappearance of senile cataract, and these cases may be explained and classified in five groups, as follows:

(*a*) Cases in which there was spontaneous dislocation of the cataractous lens.

(*b*) Cases in which there was absorption after spontaneous rupture of the anterior or posterior capsule.

(*c*) Cases in which there was intracapsular resorption of the opaque cortex and sinking of the nucleus below the axis of vision after degenerative changes in Morgagnian cataract, without rupture of the capsule or dislocation of the lens.

(*d*) Cases in which there was complete spontaneous resorption of both nucleus and cortex without reported history of ruptured capsule, dislocation, or degenerative changes of the Morgagnian type.

(*e*) Cases of spontaneous disappearance of incipient cataract without degenerative changes or marked difference in the refraction.

It is not uncommon for opacities of the crystalline lens or its capsule, the result of traumatism, to disappear, even when the capsule has been penetrated.

Too much stress cannot be laid on the value of personal hygiene, treatment of associate local and general disorders, careful and repeated refraction, and the proper use of the eyes in arresting the progress of incipient cataract.

In certain complicated cases, secondary to grave nutritional disturbances, lenticular opacities may entirely disappear under appropriate treatment.

Generally speaking, the so-called "non-operative" treatment of cataract as practiced by advertising charlatans and irregular physicians is worthless, often distinctly dangerous, and consists in no beneficent measures not known and appropriately used by all reputable oculists.

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### Aspirin in Diseases of the Eye.

Kirchner (*Annals of Ophthalmology*, April, 1902) has used this product with the happiest results in the treatment of acute iritis. Cases which failed to yield to the salicylate of soda and salol were markedly benefited by the administration of aspirin. The value of aspirin was not only seen in inflammations of rheumatic origin, but in iridocyclitis from a variety of causes. The pain in this class of cases seems to vanish as if by magic under the influence of aspirin. Cases of scleritis and abducens paralysis were apparently uninfluenced. The author reports a case of serosa where the pain disappeared and the exudates were absorbed under the influence of aspirin. Supraorbital neuralgia was promptly relieved, particularly the very acute cases. Headaches of obscure origin were dissipated by aspirin, so also headaches where the cause was known, but which had failed to yield to the

usual remedies. Generally speaking, fifteen grains was used at a dose, and this dose was sufficient to relieve the trouble. More than thirty grains was never necessary.

## DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,

Member of the American Dermatological Association.

### Lupus Erythematosus.

In recording their experience of a clinical study of seventy-one cases of lupus erythematosus with one death (*British Journal of Dermatology,* October, 1902), Drs. James H. Sequeira and H. Balean, of London, England, submit the following conclusions:

The inflammatory nature of the lesions in lupus erythematosus and their symmetrical distribution suggest a circulating poison or poisons. The hypothesis that the circulating toxin is of tubercular origin in all cases does not appear to be adequate. They found that the two varieties of the disease exhibit striking differences in their relationship to tuberculosis. The discoid form was associated with tuberculosis in eighteen per cent, and there was a history of tuberculosis in the family in about forty per cent. The authors are therefore inclined to agree with W. Pick's statement that we have no right to say that lupus erythematosus discoides is a tubercular affection.

On the other hand, they found that the disseminated form was associated with the presence of tubercular disease in seventy per cent of their patients, and that there was a history of tuberculosis in the family in eighty per cent. The more severe forms of the disease appear to be constantly associated with tuberculosis, although in their own fatal case the lesion was obsolete and limited in extent. There is, therefore, strong evidence in favor of lupus erythematosus disseminatus being of tubercular origin, or that the presence of tuberculosis modifies the course of the disease and intensifies it. The fact that lupus erythematosus is very rarely seen in our great consumption hospitals is perhaps not sufficiently recognized. If the disease was solely due to the circulation of toxins of tubercular origin, we ought certainly to find it frequently in institutions where so large a number of patients suffering from tubercular disease come under observation.

The presence of albumin in the urine in a large proportion of the disseminated cases, and particularly in those in which the

disease was active, may be explained in two ways. We know that circulating toxins in the exanthemata and other diseases are excreted by the kidneys, and that they commonly set up nephritis. In the more active forms of lupus erythematosus—in those, in fact, in which we may assume that there is a greater toxicity—is found albuminuria, which we believe to be of toxic origin. The other explanation is that the kidneys being diseased previously prevent the excretion of toxins, in themselves incapable of causing renal changes, and that their retention in the blood is the cause of a more active form of the cutaneous disease. The authors are inclined to the former opinion, as they found no reason in some of their cases to suppose that there had been pre-existing albuminuria, and, morever, the albuminuria was associated with the disseminated form of the disease, especially of the exanthematous type.

The situation of the lesions appeared to be determined by (1) nervous influence. The peculiar limitation of the areas affected affords strong support to the angioneurotic theory of the disease. They found, however, no characteristic changes in the nervous system in their fatal case. (2) A feeble circulation also seems to be a factor, as shown by the frequent association of acroasphyxia and allied conditions, including Raynaud's disease. (3) Local irritation cannot be overlooked as a determining factor, as shown by the appearance of the lesions after the application of poultices, of a cantharides blister, from the irritation produced by the chemical rays of light, and by the bite of a mosquito.

## GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

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### The Pathogensis of Eclampsia.

F. P. Hammond at the recent meeting of the New York State Medical Association presented a paper (reported in the *Medical Record,* Oct. 25, 1902) upon this subject. He said that the degree of toxicity of the blood forms a fair criterion on which to base a prognosis in the individual cases of eclampsia. The underlying principle of treatment should be a judicious prophylaxis. Every case of headache should receive attention, and the patients should be taught the necessity of medical supervision throughout pregnancy. If the specific gravity of the urine is

1012 or less, even though nothing else is discovered on analysis, the physician should at once prescribe some remedy which will increase the urinary solids. The best for this purpose is the tincture of chloride of iron, ten minims three times a day, given in lemon juice. For the headaches, the bromides will be found the best, and the coal-tar products should only be given with great caution in pregnancy. Disturbance of vision and the occurrence of vertigo are often the result of disturbance of the liver or alimentary canal, and such cathartics as podophyllin and elaterium are indicated. If the urine is of a moderately deep color, diminished in quantity, and having a specific gravity of 1012, the condition is a dangerous one. If with these there is albuminuria, the prognosis is decidedly bad. Albumin is often absent from the urine prior to an eclamptic seizure, but it is almost always present coincident with or immediately after the eclamptic attack.

The best prophylactic treatment is the selection of a diet which will minimize the accumulation of toxins in the system. The diet should contain fluids in abundance. Wheat bread, from its richness in nucleoalbumins, should enter into the diet at every meal. The morning meal should consist of an abundance of fresh fruit, always peeled, and the fluids should be weak tea, coffee, or water. There should be no meat. The midday meal should be the chief one of the day, and only at this meal should the red meats be permitted. Red meat is a special nerve excitant. The evening meal should be light, and should be of greater bulk than the morning meal. When headache, disturbance of vision, vertigo, or epigastric pain occurs, the patient should be at once put upon a fluid diet, consisting for the most part of milk, but including shell-fish broths. Under no circumstances should the meat extracts be allowed. When the colon or lower bowel is at fault the cascara compounds are especially useful. If there is persistent flatus, the common rhubarb and soda mixture will often act most happily. A sluggish liver is chiefly at fault in connection with the accumulation of toxins in the system. Under such conditions podophyllin and elaterium are particularly indicated. Cold bathing should be interdicted throughout the entire period of uterogestation, though warm baths should be taken regularly twice a week. When the symptoms point to danger there should be no delay. The cervix should be dilated with the finger and the patient given a good dose of croton oil. To avert the attack, when imminent, the speaker said he knows of nothing better than chloral hydrate, though admitting its dangers. The paralyzing effect of veratrum viride seems to him to be so great as to interfere with the progress of labor.

# THE MEDICAL AGE

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## ORIGINAL CONTRIBUTIONS.

### ETIOLOGY OF APPENDICITIS.

BY H. E. RANDALL, M.D., LAPEER, MICH.

There are at least four diseases that the general practitioner dislikes to meet in his practice—consumption, cancer, pneumonia, and appendicitis. The last named, because of the misleading symptoms, the mystery of the exact pathological condition going on, the uncertainty of the outcome, make it at once an intensely interesting disease, but to be dreaded because of the grave responsibility assumed. I do not propose to take up the question of treatment, but to call attention to a few facts that may explain why the disease is so prevalent.

Foreign bodies as a cause of appendicitis are practically *nil*. N. Senn says he has found foreign bodies in only two cases out of a total of more than 300 operations for appendicitis—a straw in one case and a pin in another. Foreign bodies are found quite frequently in the appendix at autopsy, but during life they gave no symptoms whatever.

Fecal concretions are frequently found in operative cases, but enteroliths have also been found in otherwise healthy appendices after death, which produced no symptoms whatever during life.

In an effort to explain the cause of appendicitis, Faisans, seeing many cases following an epidemic of influenza, frantically exclaimed, "La grippe is the true cause of appendicitis."

Bland Sutton refers to the appendix as the abdominal tonsil, and undoubtedly the lymphoid tissue and lymphatic channels play a very important part in the spread of the disease. I saw a case just the other day of only nine hours' standing, in which there was pus, but the appendix was not ruptured. We see these cases in which the appendix is not perforated, yet in the substance and even outside of the appendix we find pus or a local peritonitis. That the appendix is, like the tonsil, subject to a rheumatic or gouty infection (whatever that is) seems to be, in the opinion of

a majority of men, an extremely rare event. I have never seen a case in which I thought rheumatism had anything to do with it, but cases have been from time to time reported in our medical journals in which rheumatism may have been the cause, or else a coincidence. It has seemed from reading the older anatomists that the appendix was larger several centuries ago than it is to-day.

The anatomy and structure of the appendix is too well known to be repeated here. Its dependent position has caused some to think that perhaps gravitation had something to do in causing the disease, but since foreign bodies play so small a part in the causation of appendicitis it can, I believe, be ruled out. Robinson has pointed out the relation of the appendix to the psoas muscle in a very elaborate paper, but if the psoas muscle is the exciting or even the predisposing factor, why do not more people have the disease? It is a muscle in constant daily use. Older physicians have remarked on the increased frequency of appendicitis since the bicycle has come into such common use.

Lipaenski (St. Petersburg Dissertation, *Vratch*, vol. xxii, No. 22) performed the following experiments to determine the possible cause of appendicitis. In the first series (eight experiments) he introduced mechanical and chemical irritants into the appendix. The result was a slight inflammation, somewhat intensified when the irritant was very strong. The inflammation, however, never spread beyond the appendix. In the second series (twenty-two experiments) cultures of the streptococci and coli communis were injected into the lumen of the appendix and also into the appendicular artery. The injection into the artery caused no symptoms. The injection into the appendix was followed by a violent inflammation of the entire appendix with accompanying peritonitis. When the lumen of the appendix was narrowed or closed by a ligature gangrene was the result. The colon bacilli caused an inflammation of the appendix and formation of granulation tissue on the serous coat of the appendix, and if a chemical or mechanical irritant was added the result was intensified.

M. Kleeki has shown by experiment that the virulence of germs is increased by enclosing a loop of intestine between two ligatures, or as seen when a loop of intestines becomes strangulated in a hernia. Adrian in Naunyn's laboratory produced appendicitis by intravenous injections in rabbits, although Lipaenski failed to produce it by injections of colon bacilli and streptococci into the appendicular artery.

A majority of the cases of appendicitis are due to an extension of a so-called inflammation of the bowels into the appendix. It

is not a true inflammation of the colon or cæcum, but more of a chronic catarrhal condition. The patient has been sick for a few days, or usually months, with some obscure bowel trouble. He will tell you the bowels are not just right, and usually not much attention is paid to it. Intestinal digestion is not perfect. Some dietetic indiscretion causes a slight discomfort, and in some cases a slight diarrhea. Eventually this condition extends into the appendix. As the process extends into the appendix the orifice is congested or swollen, and so blocks or partially or totally obstructs the cavity of the appendix. The process causes an increased secretion. Being confined it decomposes, the germs increase in virulence, and we have a case of appendicitis on our hands. The appendix is now plugged; gravitation and obstruction of Gerlach's valve cause imperfect drainage, and the appendix being of low vitality it becomes appendicitis. In fifteen to thirty per cent of cases we have the mechanical effect at least of a fecal concretion, which as the inflammation goes on is hardened, baked, and dried up. The three cases which are here given seem to illustrate very nicely the extension of trouble from the bowel.

*Case 1.*—A. F——, aged three years; first attack. She had been visiting her grandparents, and in true grandpa's way of entertaining had been fed on dainties. Had intestinal indigestion and slight diarrhea for a few days when this attack came on. She was very fond of peanuts, and this indigestible mass had been given *ad libitum*.

Examination: Tenderness over McBurney's point; rigidity of right rectus; temperature 103°, pulse 140. Appendix contained twenty-five or thirty drops of a whitish fluid resembling pus, mucous membrane swollen, and there was a small gangrenous spot near the end.

*Case 2.*—B. W——, aged five years. Had been eating a great quantity of fresh green corn, which caused slight bowel disturbances for two or three days, when the appendix became involved. In this case the appendix contained a small fecal concretion.

*Case 3.*—G. V——, aged eight years. This case is the most typical one I am able to present. This little fellow, whose teeth were badly decayed, swallowed a quantity of whole wheat. He complained of his bowels running him for a few days, not severe, and pain was slight. After six or seven days the appendix became sensitive, and just before operation he passed perhaps a couple of teaspoonfuls of wheat. The natural inference, and the one that I made, was that some of the wheat had dropped down into the appendix and had caused the trouble. Operation proved otherwise. The appendix was gangrenous in spots, but there was no wheat, although there was one fecal concretion.

In the cases given it seems clear that the bowel disturbance was primary, and the appendicitis secondary to it. Indigestible food seems to be a great factor in producing this terrible disease. Our habits and method of preparing food are different from our ancestors. Taking it for granted that they diagnosed only one case of inflammation of the bowels (appendicitis) to every ten cases, even then there were not as many cases as to-day. We have all seen cases of appendicitis in which a timely dose of calomel relieved the symptoms, and the cases were markedly benefited in a few hours. The strongest objection to the extension theory is the fact that in tropical climates where diarrheas are common appendicitis is rare.

J. Olvera in *Gaceta Medica* (Mexico) of September 1 (from *American Medicine*) says in speaking of the rarity of appendicitis in Mexico: "The deaths from diarrhea and enteritis in the City of Mexico far outnumber those from this cause in any other large city in Europe or America. In London, for instance, the mortality from diarrhea and enteritis was 658 during the last quarter of 1899, while in the City of Mexico, with a population of less than one-third, it was 759. Notwithstanding this fact and the universal use of chile and other hot condiments, appendicitis and typhoid fever are almost unknown. The record for the last five years contains only thirty cases of appendicitis in a general mortality of 15,466 to 18,438. During this time eleven cases of typhoid fever were reported, and thirty-one of abscesses in the iliac fossa, which may have included cases of appendicitis."

The fact too is recalled that our soldiers in Cuba and also in the Philippines suffered often with diarrhea, but rarely with appendicitis. But every day we are reading in the dailies of some returned soldier who has been operated on for appendicitis. Sir Frederick Treves in his Cavendish lecture on appendicitis says that he believes appendicitis is favored by life in a tropical or subtropical country on account of the intestinal troubles that are liable to occur. In an experience extending over seven years—two years with Dr. Walker, of Detroit—a year's experience in a general hospital, and cases seen since that time, amounting in all to nearly 300 cases, I have been struck with the great number that had some preceding bowel trouble. Just how many had a preceding mucous diarrhea I do not know, but I intend to make records in the future. My observations convince me that some bowel irritation or disturbance has been present in the vast majority of cases. If this be true, dieting and a careful treatment and regulation of the bowels must be observed in cases in which we wish to ward off an attack of appendicitis.

Not one factor alone but several must combine to produce this dreadful disease that is taking away our best and most useful citizens. Treves and Ochsner have opened up anew the treatment. There are yet many questions to be decided. We are unanimous on one point, however, which is that no symptom or set of symptoms will indicate the exact pathological conditions going on in a given case of appendicitis.

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## CLIMATIC AND ELECTRIC PECULIARITIES OF COLORADO FAVORING RECOVERY IN PULMONARY AND OTHER DISEASES.*

BY J. E. MAC NEILL, M.D., DENVER, COLO.

In considering the subject indicated by the title of this paper the assumption is a plausible one that the large majority of the membership of this association have never familiarized themselves with Colorado, by personal observation or experience.

While much has been written on the subject and may be learned from research, the time and attention of a large majority of physicians at a distance is too closely occupied by the demands of their local practice to admit of careful study in this direction. It is, therefore, with the desire to add somewhat to their interest, and possibly to their information, regarding the health-giving and health-restoring advantages of the Centennial State, that I appear before you, and with no desire to make any comparisons or statements prejudicial to any other State or locality. Nor is it my purpose to treat the subject as much from a scientific or theoretical standpoint as to state well attested facts, calling the attention of medical men and of all others who may be interested to a State possessing so varied and abundant advantages for all classes and conditions of men, whether in the fullest enjoyment of health or seeking it.

A residence of nearly two decades in Colorado, coming from about sea level—Chicago—where I had resided for a quarter of a century and had become broken in health and spirits, has year by year added to my convictions that in a large proportion of human ills, and especially such as have passed beyond the acute stage, far greater hope can be held out for complete recovery and far better results obtained than in the lower altitudes approximating sea level, or in localities contiguous to large bodies of

*Read before the Mississippi Valley Medical Association, Oct. 16, 1902.

water resulting in increased humidity, and often to unavoidable malarial and other health-detracting influences.

### PHYSICAL CHARACTERISTICS OF COLORADO AFFECTING ITS CLIMATE.

Colorado is an empire by itself—one of the six largest of the forty-five States—with an area of nearly 104,000 square miles. It extends 380 miles east and west and 280 miles north and south. To the north lies Wyoming, to the south New Mexico, to the east Kansas and Nebraska, and to the west Utah. It includes a territory equal in area to all the New England States plus Ohio or Illinois; or nearly equal to New York, Pennsylvania, New Jersey, and Delaware; or equal to England, Ireland, Scotland, and Wales. Of this area about one-third to the eastward from Denver, Colorado Springs, Pueblo, Trinidad, Ft. Collins, and Greeley, or about 40,000 square miles, is an immense plain, comparatively level and sparsely timbered, while some 60,000 square miles to the westward is largely mountainous, comprising many mountain ranges traversing the State in a general direction from north to south. Included in this mountainous area are four great systems of natural parks with an elevation varying from 7000 to 9000 feet above sea level. Commencing at the northern portion of the State, at 41 degrees north latitude, comes North Park with an area of 2500 square miles, or twice that of Rhode Island. It is 75 miles in length by 50 miles in width, with an altitude of 9000 feet, while the mountains environing it rise from 4000 to 5000 feet still higher. In no other portion of the globe is there a more perfect paradise for the hunter, while the many streams winding their way through this great plateau are the abodes of myriads of fish.

Next to the southward, and separated from North Park by a mountain range, comes Middle Park, somewhat larger than North Park, containing about 3000 square miles, and quite similar thereto in many of its physical characteristics. Within its boundaries lies the famed Grand Lake, one of the most beautiful inland lakes on the continent, and one of the largest in Colorado. In about its center, and covering an area about a mile square, it appears to be bottomless, the deepest soundings ever made failing to reach bottom. But ten miles away are located the still more famous hot sulphur springs, six in number, in which the waters boil up from the base of a cliff at a temperature of 117°, and for drinking and bathing possess remarkable virtues in diseases of the liver, kidneys, and skin, as also in dyspepsia and rheumatism and allied complaints.

To the southward from Middle Park, and separated therefrom by the great Snowy Range, comes the beautiful South Park, some 50 miles in length by 20 to 30 miles in width, with an area of about 1000 square miles. This lies about 75 miles southwest from Denver and comprises the area in which was first discovered the rich gold mines that in the early days, some forty years ago, made Colorado famous. Here also are found mineral springs in various localities possessing waters of well known medicinal virtues. The average elevation of South Park is 9000 feet.

Some 50 miles further to the southward, and separated by several mountain ranges, lies the largest of all these magnificent mountain amphitheaters, known as San Luis Park, with an area of some 10,000 square miles. It is elliptical in form and some 100 or more miles in leigth by 50 miles in width, and comprises the famous agricultural region of southern Colorado. It is bisected by the great river Rio Grand del Norte, which flows through its entire length. It also contains a beautiful lake of the same name, miles in length, and which has no known outlet, although fed by some eighteen or twenty streams. Within its borders are seventeen mountain peaks at very equal distances each from the other, the loftiest being Sierra Blanca, standing alone in its magnificence and grandeur, crowned with perpetual snow, and rearing its towering head 14,483 feet above sea level, or 335 feet higher than Pike's Peak. The average elevation of San Luis Park is 7500 feet, and it is surrounded by mountains rising from 4000 to 7000 feet still higher than the plain, which is remarkably level. Traversing this magnificent plateau of fabulous beauty and resources nearly through its entire length is one of the great arteries of Colorado's world-famous scenic railway system—the Denver and Rio Grande—which here presents one of its many remarkable features in railway construction, being a direct tangent 52 miles in length, and without a cut or fill during its entire length, and this at an elevation of 7500 feet above sea level.

The lands in all these great parks are rich in nutritious grasses and wonderfully productive in grains, vegetables, and fruits of all kinds wherever cultivated.

Those who imagine there are no lakes in Colorado will be surprised to learn that this mountainous area alone contains a thousand or more, besides over 250 rivers and many smaller streams, mostly fed by melting snows that are stored in the mountains thousands of feet above until such times as the moisture is needed below. Truly a wise provision of nature, and one that adds vastly to the State's productiveness and resources.

Within this area is also stored Colorado's vast and incalculable mineral riches, inexhaustible in extent for many generations to come, secure in their nature-encased vaults until such time as the enterprise and genius of man shall discover and utilize them—gold, silver, iron, lead, copper, coal, marble, granite, petroleum, etc., toward the discovery, exploration, and recovery of which scarcely a beginning has yet been made. Centuries will be required to explore their boundaries and values and reveal to the world the incalculable riches of the Centennial State.

It can therefore be readily understood that in this wonderful variety of climatic conditions arising from the differing altitudes of mountain and valley, in the course and direction of its unnumbered mountain ranges, its proximate and remote mountain streams, lakes, and water-courses, its innumerable resorts at various altitudes more or less protected at any and all seasons of the year from the heat of summer and the rigors of winter, its 300 days out of the 365 each year of sunshine and cloudless skies, its entire freedom from malarial influences; advantages and conditions prevail that cannot be improved upon in any other State or country, conducive to health or to recovery from diseased conditions.

The atmospheric conditions at all seasons of the year are such that, by careful study of the requirements of the patient, localities may easily be reached that will afford the best possible opportunities for recovery.

Within this great mountainous area of nearly 300 miles north and south by 200 miles east and west are nearly 150 snow-capped mountain peaks, ranging from 13,500 to nearly 14,500 feet in height, 72 of them being unnamed, and 26 being higher than the famed Pike's Peak. Within this area are also many valleys of almost winterless temperatures. The same altitudes at different places afford climatic conditions differing entirely, owing to variations in the trend of the valleys in which they lie and to their exposure to winds and to the sun's rays. The ever-constant and important conditions of sunshine, dry air, and blue sky, common to all habitable portions of the State, form its basic health-restoring and health-sustaining qualities, equally advantageous to the sick and to the well.

### MINERAL SPRINGS OF COLORADO.

As the world's greatest storehouse of minerals of every description, this immense area of geological and chemical wonders would be strangely incomplete without mineral springs of every known variety, and such it possesses in large and varied measure.

Diseases that often defy scientific treatment readily yield to nature's remedies, epitomized in waters flowing fresh from God's unseen and fathomless fountains, possessing healing properties beyond the skill of man to duplicate.

Chemical analysis and scientific comparison show that within this great area of phenomenal riches and resources, the waters that are famed for their medicinal virtues found in any other portion of America, or in Germany, Austria, France, or Switzerland, are all duplicated, and that springs here exist that must eventually be known to the ends of the earth for their medicinal, health-giving, and healing properties, thus again adding to the renown of the Centennial State and making it a Mecca to which pilgrimages will be made by countless numbers for the benefit of waters that shall forever flow "for the healing of the nations."

### SOME GENERALLY ACCEPTED FACTS REGARDING MOUNTAIN CLIMATES APPLICABLE TO COLORADO.

After all the discussions that have been indulged in regarding the relative advantages of mountain climates as compared with altitudes approaching sea level, as health-restorers in many diseased conditions and as health-promoters where no serious abnormal conditions exist, certain accepted facts stand out prominently that must at once appeal most forcibly to all physicians as conditions of decided advantage in favor of high altitudes.

Elevations of 5000 feet and more above sea level may be regarded as mountain climates. Common to all such elevations, varying with local conditions, may be mentioned:

1. Pure air, with relative freedom from noxious gases and from irritating substances floating therein, as dust, etc.
2. Diminished atmospheric density.
3. Reduction in temperature.
4. Diminished humidity.
5. Powerful insolation as to both heat and light.

It would hardly seem necessary at this time to emphasize the fact, so generally understood and accepted, as to the relative purity of the atmosphere in mountainous regions, usually sparsely inhabited, as compared with the atmosphere of lower altitudes pregnant with organic and inorganic forms of various substances that so abundantly thrive where the conditions are so favorable for their growth and existence in more humid atmospheres, in thickly settled localities with inefficient drainage and surroundings favorable to the generation of deleterious gases, from decomposing substances, both animal and vegetable, and to malarial and miasmatic influences.

Atmospheric density diminishes as we rise above sea level in a ratio varying from 12 per cent at 2500 feet to about 25 per cent at 7500 feet. The diminution in temperature as we ascend above sea level amounts to about one degree for every 300 feet.

The diminished absolute humidity of the higher altitudes, especially noticeable in Colorado along the entire foot-hill region on the eastern slope of the Rocky Mountains, is doubtless increased by the presence of a quickly absorbing and drying soil and the absence of frequent and prolonged rainfall. Also in the higher altitudes the sun's rays, being more direct and powerful and of longer duration, form a factor of great importance both to the invalid and also to those who are not to be included in this class.

Along this entire sun-kissed eastern Rocky Mountain slope of Colorado, extending for 400 miles north and south, the sun shines brightly about sixty-two hours out of every possible one hundred, while along the Atlantic coast it averages less than fifty, while there the sun's rays are also lessened in force and directness and largely counteracted much of the time by clouds, fogs, mists, and dense humidity, which in Colorado are for the most part unknown quantities and conditions.

During the winter months the contrast is still greater. In Colorado we have from December to March 56 per cent of all possible sunshine, while along the Atlantic coast the average is but 37 per cent, thus showing a vast advantage in favor of the higher altitudes of Colorado.

Taking periods of ten years in Denver as compared with the same in more eastern cities at about sea level, we have an average of 314 clear or partly clear days annually, while in Chicago the average is but 251 days, and in New York City 262 days. Such figures as these speak for themselves and need no further comment.

Of incalculable advantage also is the early morning sunlight throughout this entire eastern portion of Colorado, as also very generally throughout the more mountainous portions, with its warmth and brilliancy as cheering as it also is beneficial in the early part of the day, either to the invalid in hastening recovery or to those in health in sustaining and prolonging life. And it is to be noted that the purity of the air depends largely upon the amount and intensity of the sunlight passing through it.

### VALUE OF HIGH ALTITUDES WITH THEIR RAREFIED AIR AND DIRECT SUNLIGHT IN THE TREATMENT OF ABNORMAL CONDITIONS.

It would be difficult to name any disease or abnormal condition in the treatment of which a pure, aseptic, rarefied, clear, stimulat-

ing, sunny, dry atmosphere is not an inexorable requisite in accomplishing the best results. Medicinal remedies may or may not be demanded, but pure air and pure water—nature's sovereign remedies—must not be forgotten or denied. Wherever these can be found is where the sick or the well best thrive, and where the percentage of longevity will increase the most rapidly.

The researches and observations of climatologists of high standing in the profession and in the confidence of physicians the world over, who have for years past made careful study of the relative advantages of high altitudes as compared with those approaching sea level, almost without exception as regarding pulmonary diseases or tendencies in this direction, within the possible curative stages, give the preference to the higher altitudes.

Dr. Charles Dennison, of Denver, and Dr. S. E. Solly, of Colorado Springs, who have made careful observations during twenty-five years or more past as their large opportunities have afforded, together with many physicians of the State and elsewhere, less widely known, may be mentioned in this connection, as also Drs. C. T. Williams, Herman Webber, and W. H. Walsh of London, Drs. Jaccoud and (the late) Jourdanet of Paris, the late Dr. Carl Rudei, formerly of Denver and later of Davos Platz, Switzerland, Dr. Archibald Smith of the Peruvian Andes, and others of note, all men of eminence and of large experience and observation in the treatment of pulmonary diseases, are a unit in ascribing the best possible attainable results to the higher mountain altitudes.

### ELECTRIC CONDITIONS OF COLORADO.

While physicians of intelligence and wide experience in the practice of their profession in Colorado are convinced that in the realm of electric influence a far more potent and beneficial factor exists in the higher altitudes, favoring sustenance of the vital powers and recovery in many abnormal conditions, than exists in the altitudes nearer sea level, yet they also recognize the fact that our present knowledge regarding this force existing subjectively in individual cases is not sufficiently advanced to enable us to measure, fully describe, or define it with accuracy, and the subject is here mentioned with the hope that the members of this association may interest themselves in further investigation, with the view to the possible removal of the cause, operation, and effect of such important phenomena from the domain of present speculative theory.

A thorough and analytical discussion of the influence of the sun upon our earth and its living organisms would occupy a

field too wide for the limits of the present paper. The peculiar power of the solar rays in their creative and hygienic effects upon animal and vegetable life deserves a high place in scientific investigation.

Throughout the entire solar system the sun diffuses heat, light, and certain forces yet imperfectly understood, and may perhaps be the dynamic generator of the electricity of the world. Heat, light, and that other power, which for convenience we may call electricity, beget something like a chemical agency, the most powerful and subtile in its creative and metamorphic results within the realm of human observation and science.

The sun may well be regarded, from a purely scientific standpoint, as the source of life, since all material forms of life, both animal and vegetable, could not exist without it. Hence, as the creator and preserver of life, no wonder the ancients worshiped the sun, the most natural and rational of all primitive theogony. True, there are certain classes of life, animal and vegetable, which seem to generate and thrive best in the environment of damp and darkness. Vegetable forms of fungoid nature, for example, and classes of insects of multitudinous and almost spontaneous breeding faculties, but short-lived, come into being away from sunlight; and with such genera we may class the microbic and parasitic forms of life. But it is remarkable that the sun is the enemy and great destroyer of these lower forms of insectivora, fungi, sporadic and microscopic malfere.

While on the one hand the sun is the greatest germinating agency in nature, on the other hand it is the great universal antiseptic and germicidal agent in nature's economy. It is familiar household knowledge that the best way to render wholesome such things as clothing, bedding, carpets, etc., is to hang or spread them out in the sun. How can a poisonous swamp be best redeemed? By draining it and letting the sun consume the malarious and miasmatic elements. Nothing is so cheap and quickly efficacious an agent in this regard as the solvent, deodorizing, disinfecting, and vermin-destroying influence of clear sunlight and air, especially *dry* air.

The sun is the great scavenger of the earth. From the earliest travel across the plains and mountains between the Missouri River and the Pacific coast, no fact of common observation was more striking than the rapidity with which carcasses of animals dying along the route were dried up and dissipated by the sun of the high and arid altitudes, with little or no putrefaction. Indeed, Indians and Mexicans throughout this entire region, from time immemorial, have cured their fresh meat by

cutting it into strips and hanging it up unsalted in the sun, like clothes on a line.

The most primitive peoples of whom we have knowledge in history or tradition were not only familiar with the healing virtues of sunlight, but for this reason, as I have already mentioned, made the sun their chief god.

Osiris, the sun, was the god of the cultivated Egyptians, and under various names was the chief deity of other leading Oriental races, as well as the god also of the Montezumas, their pyramid-building prototypes of the American Occident.

And even the Hebrew poets of the Bible were so permeated with the ideas of the so-called "heathen," derived from their former Egyptian masters, that they could not avoid incorporating these ideas into their sacred literature; as witness that beautiful passage of Oriental speech which figures their own God as the "Sun of Righteousness which arises with *healing in his wings.*"

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## THE VALUE OF HYPNOTISM AS A THERAPEUTIC REMEDY.

BY G. M. HENDERSON, M.D., PHILADELPHIA.

For many years hypnotism has been in the hands of the charlatan and quack, which has injured its reputation in consequence, until to-day in this country it is scarcely used by the medical profession at all. And yet in other countries this measure has been used to a great extent; the French physicians have adopted its use in nervous cases extensively. This is due to several reasons: the French are naturally fond of such measures; again, the French people are easily hypnotized, and being good subjects, the results are excellent. This peculiarity is noticed in any report of the clinical lectures of the French neurologists; for example, in a report of Charcot's lectures delivered some years ago, fully seventy-five per cent of the space was taken up by this subject.

The hypnotic suggestion is found everywhere in nature; for example, sulphonal was tried in a certain hospital some years ago, and each patient was informed of its hypnotic effect. Inside of a few minutes they were all asleep, although it is well known that this drug exerts no physiological action for at least an hour. This power to hypnotize oneself is the basis of power in so-called faith-cures, "Eddyism," etc.

Frank Stockton, the well known author, has made this property the basis for a story in which a lecturer hypnotizes an entire audience wholly unconscious of the fact by revolving lights before their eyes while they sat in darkness; as a result they saw the

most wonderful tricks, which were wholly unseen by the late comers, who of course were unhypnotized. The author makes the heroine come late, and as the lecturer is her lover she comes to the conclusion that he is an awful liar and becomes disenchanted with him.

In taking up the subject medically we find that Robertson, who studied the subject with Voisin, Luys, and Bernheim, tried its use among the female patients in the Morningside Asylum. As a result of his experience he finds that the insane make difficult subjects, but by selecting the most sensible of the patients success is likely in about fifty per cent of the cases. This is based on the fact that he spent only fifteen minutes on each case on the average. Robertson found a decided objection to melancholiacs except of the simple variety, for their subjective consciousness is so strong, being wrapped up in their morbid ideas, that instead of listening to suggestion and becoming hypnotized, they sink only the deeper into their own subjective ideas. In the cases which can be hypnotized success varies greatly, and often in an unexpected manner, for, although the majority of the patients have gone under fairly deeply and had no recollection of what happened, still the control over them is not so strong as over a sane person, because their intelligence is not so firm, they do not as a rule take suggestions as well, nor do these suggestions make so great and lasting an impression upon them.

In the insane the sleep following hypnotism is shorter, on account of the morbid excitement within the brain, arousing the patient just as in the state of good health one may be awakened out of a normal sleep by a vivid dream. As a result of his work Robertson gives his conclusions as follows: (1) In insomnia hypnotism succeeds in intractable cases, when drugs have not been successful. Hypnotic sleep being more closely allied to healthy sleep than is drugged sleep, it must be of great service when the brain nutrition is already bad and the additional effect of depressing drugs is undesirable. (2) As a sedative, in excitement, hypnotism is of direct therapeutic value in preventing an outburst of excitement from passing into mania in a brain in a highly unstable condition. (3) To dispel fleeting delusional states and the minor psychoses by means of verbal suggestions in the hypnotic state, removing these lesser degrees of mental derangement.

Hypnotism is also useful for the management of the insane patient in overcoming the morbid resistance in making them do what is necessary for their own benefit, in the giving of medicines and the administration of food; also as a substitute for restraint in cases of excitement and violence, replacing the mechanical.

physical, or chemical by what might be called "the mental restraint." Unfortunately the defect in this treatment is its uncertainty. It is also unreasonable to expect miracles from its use, for it will not cure pronounced or advanced forms of mental disease nor cases of fixed delusions. Another objection to its use in asylums is its tendency to increase the delusions about unseen agencies in general; but used with caution, in selected cases, it may do great good.

Another direct indication for the use of hypnotism is in the treatment of the so-called "subconscious pain." If we examine our consciousness, we will discover that there are conditions of consciousness which constantly affect our mental processes, and yet are not fully before the mind at the time: for example, take the case of a student who is told that a certain subject is going to be very difficult to understand; at once this fact handicaps him, for while he studies or listens to a lecturer, this thought will run as an undercurrent through his mind.

Starr has illustrated this well in the following way: "Suppose you have some considerable affliction and are in grief, and suppose some one suggests that you go to the theater for diversion. You go and see a fine piece, but it does not seem nearly as fine as it would have seemed before your grief; there is an undertone of sadness which prevents your full enjoyment. Thus anxiety, worry, expectation, apprehension, all influence our mental state even when we are not thinking distinctly of them. So there are these subconscious states that react upon the normal mental activity and handicap our capacity in a way. Another instance of the phenomena of consciousness is commonly used by clergymen on the authority of St. Paul, as an example of the influence which subconscious mental activity has upon conduct, viz., that of two opposing spirits or tendencies within us acting against each other, one driving us in the right way and the other the wrong way. Stevenson, in his novel of 'Dr. Jekyl and Mr. Hyde,' brings these tendencies fairly before the mind, showing a dual nature—two separate sets of impulses fighting against each other. . . . Professor William James has said that consciousness is to be likened to a vessel full of fluid into which if you pour a drop more, a drop must flow out. We are conscious therefore of numerous things at once, with varying degrees of distinctness. We are conscious of a large number of things in succession, and some of these come gradually before consciousness, becoming clearer and clearer, and afterwards become indistinct, until they fade away and are past. The mind is influenced not only by the things which are in the clear light of conscious attention, but also

by those things of which it is dimly conscious, by the things which are just advancing over the threshold of consciousness, or are just passing out of its cognizance."

With this explanation let us see what hypnotism can do for these cases of subconscious pain; let us take as a type a young girl of about twenty, who claims that for years she has been suffering from pain lasting without intermission. This pain is principally felt in the back and in the arms; it is dull in character and is worse after a night's rest; it is frequently so bad that she is awakened by it in the morning. She has been in fairly good health and has found no cause for the phenomenon. The first thing is not to jump to the conclusion that these cases are hysterical; first everything else must be excluded. I remember well a case of a man with a very hysterical history who came complaining of an intense pain in the abdomen. Nothing was found on examination; his temperature and pulse were normal; there were no spots of tenderness, and no tumor of any kind; all that supported his case was his own statement, together with some emaciation. It presented a faint suggestion of gastric cancer, but as his family stated that he had been complaining of all sorts of things for forty years, he was dismissed with the thought that probably he was a malingerer. Six months later I was called to see him, and found him in extreme emaciation, with all the signs of malignant disease. On his death the autopsy revealed the fact that he had a deep-seated gastric cancer; he had cried "wolf" so often that his family and doctor were finally deceived.

First in such a case it is well to think of neuritis or neuralgia. The pain must bear some relation to the course of the sensory nerve trunks. Again, neuralgia is nearly always unilateral; in this girl it is bilateral and does not follow the course of the nerve trunks. As there is no tenderness over the course of the nerves, it cannot be neuritis. Going in toward the spine, is there any spinal change which would cause this pain? Locomotor ataxia presents the phenomenon of shooting pains, but they are sharp and lancinating, nor are there other signs of this dread disease. Spinal meningitis might produce these pains, but then they would be referred to definite areas of the skin corresponding to the level of the part of the cord which is compressed, while there would be stiffness of the neck, hands, and arms. So it is with the thought of spinal tumor or some brain trouble, such as hemiplegia, hemiataxia, hemiathetosis, or hemianesthesia. But these latter conditions are all unilateral, for bilateral cerebral affections are rare exceptions. This girl complains of pain as much on one side as the other.

Next comes the possibility of the existence of some general disease such as muscular rheumatism, probably not existent here, for the pain is limited to a special region, nor is there evidence of bone trouble. So by exclusion we come to the diagnosis that this is what we call, for want of a better name, "hysterical pain." In other words, it is a condition of subconscious sensation of purely internal mental origin, exactly like the hallucinations of a patient in delirium. Many physicians would dismiss it with the remark that it is "purely imagination," but it is still true that she keeps on having the pain and cannot voluntarily rid herself of it. Here is a case where hypnotism is the remedy *par excellence.*

To reach the subconscious pain it is necessary to reach her subconscious state. When in the hypnotic state she will respond to the suggestion, and retain it after she comes out of the hypnotic sleep. It is as a rule not difficult to hypnotize these subjects. Have the patient lean back in an easy chair, resting her head on an easy pillow, and direct her attention to a bright piece of metal or to a revolving series of mirrors, and say quietly but decisively to the patient, "You are going to sleep; your eyelids are heavy and are closing; you are gradually falling asleep; close your eyes; you are going to be fast asleep in a minute; there, your eyes are closed; your eyelids are heavy, they are shut fast; you cannot open them; you are deeply asleep." Some such series of admonitions are all that are necessary; she is now in a state of somnambulism, in which she hears what is said, and can be easily awakened if told to wake up. The curious fact of this condition is that any suggestion given now will remain on her regaining consciousness.

There are forms of hysteria, such as hysterical paraplegia in children, where it is undoubtedly wrong to use this agency. Allbutt and Riegel have reported extensively on this condition. Undoubtedly many brilliant cures of paraplegia in children are cases of this sort, so it is well to be on the lookout for them. Remember in seeing cases of paraplegia in children not to mistake those cases which are of functional origin for those which depend on organic disease.

The principal points in differentiating are as follows: (1) The peculiar distribution of the anesthesia, which does not correspond to the distribution of any nerves; (2) the presence of spasmodic seizures or contractions; (3) the presence of other hysterical symptoms; (4) the non-involvement of the reflexes, excepting in the way of a slight exaggeration; (5) the result obtained by treatment, which must be a mental one, influenced by a change of environment and by firmness, and the use of elec-

tricity in some form, such as the electrical brush, but, as I stated above, not the use of hypnotism.

Here is a typical case of this sort: J. H——, aged thirteen years, has the history of being a delicate boy, and as is often the case with these children he is unusually bright at his studies. At the age of eleven he ran down markedly in health, with a history of considerable gastric disturbances. He was taken from school and placed in the country, but he did not improve especially. His parents soon noticed that he could scarcely walk; there was an awkwardness in his gait, due to a spasm of the adductors, which made his legs cross in walking; he had to be reminded of his daily habits, such as micturition. He developed chills, and was put to bed. His temperature during the chill did not rise, but he was left in an exhausted state. With this he had some anesthesia and analgesia, which varied in degree and location. His reflexes were normal, although possibly a little exaggerated. He was entirely unable to bear any weight upon his legs or to walk.

His was a baffling case for some time, but hysteria was suspected, and it is well to remember that the boy is apt to be very hysterical. I have never seen this commented upon much in medical literature, but it is nevertheless true. Finally, he was given, after long courses of internal treatment, a strong galvanic current. It was speedily found that he could walk and do it well. The chills disappeared, and the sensibility in his legs returned.

In conclusion I would state that in using hypnotism, always have the full consent of your patient, and always have some responsible relative or friend of the patient present. Do not try any experiments, but use it on legitimate grounds, and it can be a factor of great good in a class of otherwise baffling cases.

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A NEW journal has recently been founded in Japan under the title of the *Japanese Journal for Dermatology and Urology*. The original articles, according to the *Journal of the American Medical Association*, will appear in German, the abstracts in Japanese. The first number contains an article by Dohi on leprosy, which states that the nervous form is much more common there than the nodular form. He treats the latter with a mixture of ol. gynocardia and ol. oliv. ana, while he finds injections of a one or two per cent solution of sublimate the best treatment for the nervous form, giving continuously, with intermissions. The statement is made in this periodical that the proportion of cases of venereal diseases in the Japanese army fell from 70.2 per cent to 55 per cent in the last three years of the century.

# THE MEDICAL AGE.

**A Semi-Monthly Journal of Medicine.**

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## EDITORIAL ARTICLES.

### THE CAPITULATION OF CHRISTIAN SCIENCE.

There are signs of revolt and dissension in the ranks of superstition. Mrs. Eddy, the hierophant of that form of feeble-mindedness known as Christian science, has issued a decree which must sorely try her votaries, and to explain which must make them engage in all kinds of dialectical gymnastics for some time to come. She, the priestess of the new faith in whom reposes the potentiality of universal mind, has so far admitted her inadequacy to deal with certain problems of mortal mind that she has instructed her ignorant and foolish followers to permit those afflicted with contagious disease to utilize the resources of material science. "O! what a fall was there, my countrymen." Mrs. Eddy, the high priestess of twaddledum, the apostle of obfuscation, the veiled prophet of meretricious obscurantism, has come down from the mountain of absolutism, where she dwelt among the white presences of the eternal gods, and has descended into the mire of the relative and impotential. If Mrs. Eddy believes in herself and what she teaches, she has been guilty of a cowardly surrender to prejudice and superstition. If she be the custodian of a divine truth, she has prostituted her vocation as its guardian by pandering to the temporary convenience of the vulgar and benighted. She has blasted by her action her chance of canonization even in the faith she has founded. Her paltry truckling to expediency signalizes her as a trimmer and an opportunist, lacking every essential characteristic of a prophet, teacher, or philosopher.

It is worth remembering the events which have led up to this capitulation. One J. C. Lothrop, a so-called healer, has been indicted because under his treatment the child of one Esther Hunte Quimby died of diphtheria at White Plains, New York.

In other words, one of the followers of Mrs. Eddy's faith is in danger of imprisonment for his opinions and practices. Cannot the new faith stand a little persecution? Does Mrs. Eddy think that the crown of martyrdom would not fit her brow? Would she prefer a bonnet with a stuffed bird of paradise on it? Jenner stood his ground fearlessly while scoffers ridiculed his great discovery. Ephraim McDowell did his first ovariotomy with marshals at the door ready to arrest him if his patient died. How must the faces of the Christians who went to the lions be distorted by sardonic grins, if from their sublime heights they can contemplate this humiliating spectacle, of Mrs. Eddy cowering before the figure of a police court justice.

So-called Christian science has shown by its own action that it needs no argument for its destruction. It crumbles and disintegrates from its own inherent pusillanimity. It will yield to absent treatment. It is only a question of time when its founder will be forgotten, unless in time to come some one should happen to find her portrait included in some gallery of ancient humbugs.

## EDITORIAL NOTES.

### The Odium Theologicum.

A somewhat reprehensible attempt was made in a recent municipal election in Detroit to call in question a well known physician's religious opinions, and to urge that the holding of unpopular views disqualified him from seeking office. It is needless to say that this action was promptly repudiated by all sound-thinking people. It is strange that in a land whose founders suffered and died that they might secure liberty of thought to all, such a recrudescence of the intolerant spirit should be possible. It makes one think that perhaps nature does sometimes bring back the mastodon. Such conduct must indeed be considered pathological in order to secure just commiseration for its abettor. Some theory of reversals is demanded to account for the appearance of the occasional monster.

### The Century of Hygiene.

At a meeting at Atlantic City, in 1900, an essayist ventured to call our present century the "Century of Hygiene." Although the century is still in its infancy, events prove that the name mentioned may be well earned. The fight against tuberculosis

is still at its height, and yet another battle, not less important, will in the near future occupy our minds and enlist our efforts. The proceedings of the Second International Conference for the Prevention of Syphilis and Venereal Diseases, held at Brussels, Belgium, September 1 to 6, 1902, deserve the closest attention of the medical profession and of legislators. The remark has often been made that it is inconsistent with logical thinking to pick out tuberculosis as a disease which invites our closest attention, and to neglect entirely syphilis and venereal diseases. Therefore we must note, with no small degree of satisfaction, that civilized mankind has entered the ring to fight affections which not only involve the afflicted individual, but with a grim hand reach also into following generations.

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### Vacancies in the Army Medical Department.

The examining board for the admission of officers to army medical corps has been in session in Washington for some time past, and so far has, out of all the applicants examined, found only five with the necessary qualifications. As there exist at present about forty vacancies in this important branch of the army, something must be radically wrong in the conduct of this department to make it so unattractive to young medical men. While the requirements for admission are high, surely out of all the young men who graduate each year from our medical schools enough ought to be found willing to make this their life's work.

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### Fanatical Zoophilists.

One of the strangest pilgrimages the world has ever seen is one that is at present going on in the wilds of the Canadian Northwest. The curious sect of religious fanatics known as Doukhobors claim to have received a message from Heaven, and have set forth on a pilgrimage to find Jesus. The people are zoöphilists, holding it wrong to wear as clothing any animal product or to employ animals as beasts of burden. As these people are in deadly earnest in their fanaticism, the Canadian government has a hard problem to solve in caring for them.

# ITEMS AND NOTES.

THE new building for the Academy of Medicine of Paris was opened November 4.

TWO cases of leprosy in Iowa have been reported to the State Board of Health.

BETWEEN July 13 and October 31, 1200 cases of smallpox have occurred in the Barbadoes.

AN anti-mosquito campaign in Corsica has brought about a great improvement as regards the prevalence of malarial fevers there.

THE Massachusetts State Board of Health states that in the past seven years nearly 11,000 lives were saved by the use of antitoxin.

THE president of the New York Board of Health has made the statement that eighteen per cent of the pupils in the public schools of New York City are suffering from trachoma.

DR. A. S. ASHMEAD, of New York, advocates an international leper treaty between the United States and Japan, owing to the fact that there are nearly 100,000 lepers in Japan.

RECENT reports from Alaska show that the natives of the Kamchatka peninsula are suffering terribly from measles, over 10,000 having had it since the beginning of the epidemic.

THE Southern Surgical and Gynecological Association held its fifteenth annual meeting, under the presidency of Dr. W. E. B. Davis, of Birmingham, Ala., in Cincinnati on November 11, 12, and 13, 1902.

THE nineteenth annual meeting of the Interstate Medical Association of Mississippi, Arkansas, and Tennessee was held at Memphis, Tenn., November 11, 12, and 13, under the presidency of Dr. J. B. McElroy.

ACCORDING to the official records the number of medical students in attendance at the German universities last year was smaller than in the preceding year. This is the first time in many years that such a condition has existed.

THE third annual meeting of the American Roentgen Ray Society will be held in Chicago, December 10 and 11. The sessions of the society, as well as the exhibits, will be held in the Sherman House, Randolph and Clark streets.

AT the annual meeting of the Wayne County Medical Society the following officers were elected: President, Dr. Frank B. Tibbals; vice-president, Dr. Hugh Mulheron; secretary and treasurer, Dr. Charles G. Jennings; board of directors, Dr. Arthur D. Holmes, Dr. Samuel G. Miner, Dr. H. O. Walker, Dr. Samuel Bell, and Dr. J. E. Clark.

ACCORDING to the *Lancet* there are 1211 medical men of all nationalities in Egypt, of whom 604 are Europeans, 85 hold a Persian or Turkish diploma from Teheran or Constantinople, 45 are natives with a European diploma, and the remaining 477 are natives educated at Cairo in the one Egyptian medical school. The number of Greek physicians shows a steady increase.

PROF. FRIEDRICH KRAUS, of Graz, Austria, who has been appointed to succeed the late Professor Gerhardt in the chair of clinical medicine at Berlin, is a native of Bohemia and is forty-four years of age. He studied at Prague and Vienna, acted as assistant to Professor Kahler, and in 1893 was appointed professor extraordinary at Vienna University, receiving the appointment of a full professorship at Graz the following year.

DR. GOSIO, of Naples, has indicated a possible vehicle of plague transmission in bats, which are known to swarm with parasites. In a recent epidemic of bubonic plague in Naples, the bats were suspected of having conveyed the disease from an isolated building near the town. Dr. Gosio has proved that bats are very susceptible to the plague, and that it is rapidly fatal to them, the bacilli multiplying with great rapidity in their bodies.

THE Berlin Academy of Sciences has announced (*Popular Science Monthly*) that its academic prize of 5000 marks will be awarded in 1904 for an investigation of the cathode rays, and in 1905 for an investigation of the theory of functions of several variables which admit of linear substitution. The income of the Cothemus legacy ($2000) for 1904 will be awarded for investigations of new varieties of grain. The papers may be written in English, and must be presented, without the name of the author, to the Bureau of the Academy, Universitatstrasse 8, Berlin.

Captain Potter, of the United States steamship *Ranger,* writes from Panama, September 29, that the health conditions of the isthmus are very unsatisfactory, both yellow fever and dysentery prevailing among the Colombian troops stationed on the isthmus. The steamship *Ecuador,* which reached Panama October 12, was held five miles out in the bay, because there was a case of yellow fever on board. The patient, according to the *Philadelphia Medical Journal,* died soon after the vessel was placed in quarantine, where she was held eight days. No cases of yellow fever are reported in the city of Panama.

Seneca D. Powell, in the *Post-Graduate,* recommends the following treatment for felon: "Take a hypodermic syringe and find the sensitive point, or take a lead-pencil and press the point down over the felon until you thus localize the sensitive point. Go down to the periosteum with the hypodermic and inject cocaine at this point, and keep injecting it as you draw out the syringe. Then cut down to the periosteum with a bistoury, and with a syringe or probe go down into the pocket and inject carbolic acid. You have then taken the necessary steps to kill the microbe. If you are afraid of carbolic poisoning, put in some alcohol. Put on a loose dressing."

W. G. Sackett, a graduate of the University of Chicago, says the *Philadelphia Medical Journal,* has recently undertaken a number of investigations upon the preference of mosquitoes for certain colors. He has found, so far, that red and black attract great quantities of mosquitoes. This, however, seems to contradict the old notion that a piece of red ribbon across the window-sill is still more effective in keeping out mosquitoes than are screens. In his investigations he has used the Culex mosquito. It is remarkable that no mosquito alights upon yellow. He therefore draws the conclusion that houses should be painted yellow, and that yellow clothes should be worn, to keep free from mosquitoes.

Under date of July 18, 1902, Consul Charles V. Herdliska, of Callao, Peru, in reply to an inquiry regarding the chances of success for an American physician in Lima, writes as follows: "Before a physician can enter upon the practice of his profession in Peru he must pass a State examination upon medicine, conducted in the Spanish language. Upon being found qualified a certificate is issued which entitles him to practice his profession in any part of the Republic. The opportunities for American physicians would seem to be good. Both Lima and Callao con-

tain quite a large American and English colony, and the Peruvians themselves appear to have great faith in the American, English, German, and French physicians and surgeons, on account of the advanced state of medical science in those countries."—*Medical Record.*

Prof. Adolph Lorenz, of Vienna, gave a clinic at the College of Physicians and Surgeons, Chicago, October 13, in the presence of several hundred physicians of Chicago. Professor Lorenz was introduced to the assembly by Dr. William E. Quine, dean of the faculty. He performed seven operations for congenital dislocation of the hip, all of the patients being children. On the evening of October 14 he was the guest of honor of the Chicago Orthopedic Society at a banquet at the Chicago Athletic Club. On October 15 he gave a lecture and clinic in the amphitheater of Mercy Hospital, under the auspices of the Chicago Medical Society. The subjects of the lecture were "Principles of Bloodless Reduction of Congenital Dislocation of the Hip-joint," and "Principles of Reduction of Deformities."—*Journal of the American Medical Association.*

Dr. Haldane, of Liverpool (*American Medicine*), believes that carbonic oxide, blown through all parts of the ship before the cargo is broken, destroys all rats on board, and thus prevents plague infection. The carbonic oxide is generated by blowing air through a bed of incandescent coke or anthracite in a special furnace. The result, known as producer gas, contains three parts of carbonic oxide to seven of nitrogen. When a vessel comes into dock the necessary apparatus is brought alongside, and the poisonous air is blown through the hold, entering through a ventilator in the upper part and passing out through an opening of the lower part into the next hold. The tarpaulins covering the hatches are not removed until the operation is completed. The poisonous air is then blown out with pure air, and the hatches are opened. To determine whether any poison remains, a small bird or a mouse is lowered into the different holds. Haldane's experiments showed that all rats were killed in nine minutes.

In a series of experiments recently conducted by Dr. Woodbury, commissioner of street cleaning in New York City, some interesting facts respecting the influence of clean and dirty streets upon public health were brought to light. Plates were exposed, says *American Medicine,* simultaneously for half an hour at street level and six feet above in various parts of the city, care being

taken to eliminate so far as possible conditions that might have an effect upon the number and classes of bacilli found. It was found that a plate exposed in a cleanly up-town district showed but five isolated pin-head colonies after an enlargement of 700 diameters, while a similar plate exposed in the crowded tenement district showed nearly 10,000 colonies. Both plates were exposed on asphalted streets, the experiments proving that where there is little traffic the air is comparatively pure, and where traffic is heavy the air is laden with bacteria. Air taken at or near the street level was found much more heavily laden with bacteria than that at a level of six feet or more above the sidewalk. This is of importance as accounting for the greater susceptibility of infants than of adults to zymotic diseases. Street flushing was found to be the most effective means of minimizing the various organisms.

At a recent meeting of the Maryland State Board of Health rules to govern the interment of those dying of contagious diseases were formally adopted. Hereafter in every case of death from cholera, bubonic plague, or smallpox, the body will immediately be taken in charge by the local health officer and buried or cremated within twenty-four hours; the transportation of such bodies is absolutely prohibited. Every possible precaution must be taken in preparing such bodies for burial, and it must be done with as little disturbance of its immediate surroundings as possible. The vehicle conveying the body must be thoroughly washed in a 1-to-1000 solution of mercuric chloride. When death occurs from diphtheria, membranous croup, or scarlet fever, the body must be prepared at once for burial either by arterial or cavity embalming, or by covering with a layer of absorbent cotton at least one inch in thickness, and then securely bandaged or rolled in a sheet, the entire covering to be saturated in a 40-per-cent formalin solution or 1-to-500 solution mercuric chloride, and the body immediately enclosed in a tight coffin. If the scalp, face, and cavities of the mouth and nose have been thoroughly disinfected with an approved germicidal solution they need not be covered, and the lid of the coffin may have a fixed glass panel over the face to permit inspection. It is made unlawful to open the coffin except upon written consent and in the presence of a health officer. Interment must take place within twenty-four hours after death, and only adults may act as pall-bearers. The members of the immediate household and the necessary attendants will be the only persons allowed admittance to the house. Penalties are provided for violations.

# THE PROGRESS OF MEDICAL SCIENCE.

## SURGERY.

### Mosetig Moorhof's Iodoform Plomb.

Dr. Senn, in an article on the surgical work of Prof. Von Mosetig Moorhof (*American Medicine*, Nov. 1, 1902), says that for a number of years this surgeon has made use of a preparation of iodoform in filling bone cavities after operations for tuberculosis or osteomyelitis. This antibacillary agent is used in the following form:

| | |
|---|---|
| Iodoformi | 40.0 |
| Cetacei | 30.0 |
| Ol. sesami | 30.0 |

The menstruum is thoroughly sterilized by boiling. The iodoform, finely pulverized and sterilized, is slowly added to the mixture and agitated constantly until it cools off, to insure a uniform dissemination of the iodoform throughout the mass, which solidifies at an ordinary temperature. After the cavity is prepared the mixture is heated, and in a fluid state is poured into it, when it again becomes firm and fills the cavity like dentist's amalgam in a carious tooth. The Roentgen rays show the exact location, size, and form of the iodoform plomb in the interior of the bone. The *x*-ray also shows the process of healing by the gradual disappearance of the iodoform through absorption, and substitution of granulations for the absorbable temporary packing. Cavities in the epiphyseal extremities after resection for tuberculosis, treated in this manner, heal in the course of a few weeks, and the use of the Roentgen ray at any time will demonstrate their gradual diminution in size and the slow absorption of the iodoform plomb. In extensive operations for necrosis large cavities are filled with this material, and as is often the case, if the cavity is not entirely aseptic the foreign material is gradually discharged in small fragments as the cavity diminishes in size. The greatest benefit from this method of packing a bone cavity, however, is derived in cases of tuberculous foci in the articular ends of the long bones.

### Total Extirpation of the Urinary Bladder for Cancer.

Lapthorn Smith (*Montreal Medical Journal*, October, 1902) at the recent meeting of the Canadian Medical Association presented a paper under this title. After reviewing the great ad-

vances which had been made in the surgery of the bladder in recent years, especially in the management of fistulæ and injuries to the ureters, the author took up the subject of removal of the bladder. He gave a brief historical outline of one hundred published cases, from which it appeared that when the operation of removal of the bladder was done for malignant disease the death-rate was over fifty per cent, while in cases of exstrophy and other non-malignant conditions, the death-rate was only nineteen per cent. He was strongly of the opinion that with greater experience in technique the mortality of the non-malignant cases would fall much below nineteen, while in the malignant ones, when the disease was recognized and removed much earlier, the high death-rate of over fifty per cent would be reduced to less than twenty-five, just as it had been in hysterectomy for cancer, which was seventy-five per cent twenty-five years ago, but was now less than five. He therefore urged all practitioners to look out for this disease, the cystitis and hemorrhages being among the early symptoms, and not to lose precious time in unavailing local and medicinal treatment. His own case was misleading, because she had a fibroid tumor the size of an orange pressing on the bladder, for which the patient was taken into hospital, and the tumor was easily removed by myomectomy. Her bladder symptoms not being relieved, a buttonhole was made and the bladder explored by the finger, when the cancer was found occupying the trigone. Two weeks later the abdomen was opened, the peritoneum pushed back, ureters cut off and attached to vagina, and bladder removed, together with enlarged pelvic glands. Patient rallied well and was making good recovery until the sixth day, when she rapidly collapsed and died. She was sixty-five years of age and in poor condition, and the disease was too far advanced.

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### The Diagnosis of Surgical Diseases of the Kidney Accompanied by Pyuria.

Ramon Guiteras (*Medical Record,* Nov. 8, 1902) says that given a case of pyuria, the seat and the nature of the lesion should be determined by all the methods at our command before an exploratory incision or an operative procedure is attempted.

These methods include, in addition to the general and physical examination: (1) Examination of the urine, including cryoscopy and the phloridzin test; (2) cystoscopy; (3) ureteral catheterization; (4) segregation of the urine from each kidney by appliances introduced into the bladder and not into the ureters; (5) radioscopy.

The examination of the patient's urine in such cases should be considered as of the utmost importance, and should be entrusted only to men thoroughly trained in this line of work, particularly in the microscopy of urinary sediments.

It is possible, by a careful study of the pus, blood, casts, and particularly by a study of the epithelial elements of the urinary sediment, to determine the nature of the lesions and the seat thereof in the urinary tract.

A renal lesion of suppurative character being found, it becomes necessary to locate it in one or the other kidney, or to determine whether the opposite kidney is present and healthy. This may be done with the aid of cystoscopy, ureteral catheterization, combined with the phloridzin test, and followed by the examination of the urines from each kidney, with the aid of the Roentgen rays, and if need be, in case of doubt, of exploratory incision.

An omission of one or more links in the chain of methods of examination here enumerated may give rise to grave errors in diagnosis, and nephrectomy is never justified when we are not in the position to say that the opposite kidney is present and in good condition on the basis of the tests herein mentioned.

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### Varicocele.

Chas. Chassaignac (*Medical Record,* Oct. 18, 1902) says that varicocele is a common disease, from ten to fifteen per cent of males above puberty being affected to a noticeable extent.

In the majority of instances it causes little or no trouble.

In a certain proportion it leads to more or less pronounced symptoms, physical or psychical, direct or reflex.

Palliative measures are sufficient when the symptoms are not severe.

The only radical cure is by operation.

Open scrotal ligation and resection is the operation of choice.

Suprapubic ligation and resection may be substituted by those who prefer.

Subcutaneous ligation is proper in selected cases.

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### Successful Removal of Congenital Sacral Tumor.

Dolinski (*Monats. f. Geb. u. Gyn.,* September, 1902) exhibited in March, before a medical society, a well developed female infant. Five weeks previously he had removed a congenital sacral tumor. The growth was of the size of a new-born child's

head; the integument covering it was thin from tension, but otherwise unaltered; the anal orifice was pushed far back. Dolinski passed a catheter into the intestine as a precautionary measure, made a circular incision through the skin, and enucleated the tumor. It had several outrunning processes, so that in detaching them from their connections the greater part of the rectum was laid bare and opened, and so probably was the peritoneal cavity as well. There were no complications during convalescence. The tumor was a multilocular cyst with transparent contents.

## MEDICINE.

### A New Method of Mounting Museum Specimens.

Harvey Littlejohn (*Journal of Pathology and Bacteriology*, September, 1902) advocates the use of three fluids in the preparation of specimens:

*A.* Formalin ..... 25 parts.
Potass. acetat ..... 3 parts.
Potass. nitrat ..... 1 part.
Water ..... 100 parts.

*B.* Pure methylated spirit.

*C.* Glycerin and water, about equal parts, with a little formalin added to prevent the growth of molds.

The specimen is first immersed in *A*, after washing away any adventitious blood from its surface by holding it under the water-tap for a second or two, and it should be placed upon a cushion of cotton-wool or of horsehair, in order, so far as possible, to prevent any flattening resulting from the pressure of its own weight. It is, of course, essential also that the specimen should be arranged in this fluid in the position in which it is desired it shall remain permanently.

The preparation is allowed to remain in *A* for a variable period of time. If the object is to bring out the color of a thin superficial layer of blood, or a mere surface hyperemia, then twenty-four hours, or even much less time, is amply sufficient. Should the specimen, however, be one containing blood-clots of considerable thickness, or if it is desired to retain the color throughout an organ, then forty-eight to seventy-two hours will not be found too long.

It is then placed in *B* for twelve hours, or until the original color of the specimen returns. If this does not come back within twenty-four hours, then one need not expect it to return.

Finally, the specimen is placed in *C*, and in this it may remain

permanently, or, if it is proposed to mount it "dry," then it should be left in the solution for at least a week. If the specimen is large and of firm texture, two or three weeks will be required in order to insure its thorough impregnation with glycerin. The specimen is then simply removed from *C*, placed in a jar, and the cover sealed down.

White absorbent cotton forms a background for dry preparations, and the writer generally lays them upon it. At the same time, before finally sealing up the jar, about an ounce of pure glycerin, mixed with a little formalin, is either placed underneath the wool, or some of this fluid is poured over the surface of the preparation as it lies in position.

It is necessary that the interior of the jar should be air-tight, and while there are many methods of sealing the cover, there is none so simple, easy, and efficient as the use of ordinary glazier's putty for this purpose.

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### Are Ships Infected with Yellow Fever?

Surgeon H. R. Carter, in Bulletin No. 9 of the Yellow Fever Institute (Washington, July, 1902), publishes the results of his own personal observations upon fourteen ships at the quarantine of the Gulf of Mexico, Chandeleur, and Ship Islands during the period 1888 to 1891 inclusive, having been led to do so by a paper read by Dr. Doty, the quarantine officer of New York, before the American Public Health Association at Buffalo, in which the opinion that ships do not become infected with yellow fever was put forward. Assuming that the period of incubation rarely exceeds six days, and that an infected ship is one which harbors infected mosquitoes, the cases recorded distinctly prove that it is possible for ships occasionally thus to carry infection, although the majority entering the Gulf were not so infected. There are two ways in which ships may become infected: (*a*) Mosquitoes already harbored by the ship may become contaminated by a case of yellow fever developing on board, in which case secondary cases therefrom would not be contracted until the ship had reached some quarantine station, and had in all probability been disinfected and the mosquitoes killed; while (*b*) already contaminated mosquitoes may come on board, when cases of diseases might develop at any interval, however short, after leaving port. Of the causes which have helped to reduce the number of infected ships at United States ports, the establishment of the Brazilian Republic, and consequent falling off of the number of long-trip ships from Rio de Janeiro and Santos; the ascendancy of steam-

ships over sailing ships by the former making quicker passages, staying less time in an infected port, and having better discipline as to shore leave; selection of safe anchorages; stricter supervision of new crews and passengers—have all effected a material decrease in recent years.

While, therefore, infected ships have not been rare at southern quarantine stations in the past, and have become far less common since 1893 owing to the above mentioned reasons, it is still necessary to disinfect all ships plying between southern ports of the United States and tropical ports if a case of fever develops on board; while ships running between northern ports and the tropics may, through precautions taken in tropical harbors, have no mosquitoes on board, and thus are not infectible by cases of yellow fever occurring on board. Occasionally, through infected mosquitoes being harbored in parts of the ship unfrequented *en route,* or owing to the immunity of the crew, ships may communicate fever to those going on board, although there has been no history of disease in port, *en route,* or on arrival.

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### Rachitis and Sterilized Milk.

Ausset (*Archives of Pediatrics,* Oct. 11, 1902) says that the question raised by the Society of Pediatrics as to the part played by sterilized milk in producing rachitis is one of the greatest importance. He considers that Comby holds exaggerated views in regard to this matter, and quotes the latter's opinion that breast-fed infants are free from this disease.

Ausset writes that the deformities from rachitis represent a late form of the disease, and that previous to these perceptible signs microscopic lesions of the bones and of other organs exist. Studying the evolution of rickets, he says a chronic gastro-enteritis is always found to be causative. He is inclined to believe that in the few cases of acute rachitis following infectious disease, intestinal disease antedated the infection, but was overlooked. He thinks that a systematic examination and microscopic study of the bones in all cases of death from chronic gastroenteric disease in infants who evinced no rachitic deformity of the bones would demonstrate thickening of the periosteum, abnormal vascularization, and involvement of the marrow, provided, of course, that the gastroenteric disease existed sufficiently long to occasion lesions. The writer records 682 cases observed by him; of these, 456 were bottle-fed, 59 breast-fed and bottle-fed, 167 exclusively breast-fed. His conclusions are as follows:

1. It is an exaggerated view to hold that sterilized milk

causes rachitis. It is the wrong and injudicious use of the milk that produces the disease.

2. A breast-fed child may become rachitic, if bad hygienic principles cause it to develop prolonged and serious digestive disturbance.

3. It is necessary to establish numerous milk stations where mothers may find not only good milk, but above all accurate and stringent directions as to the mode of administering the same. In this way a considerable diminution in the number of cases of rickets will occur.

4. Sterilized milk judiciously given is of the greatest value. In wealthy families its use should be considered preferable to the employment of wet-nurses.

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### Non-malignant Disease of the Stomach.

Petersen and Machol (*Beitr. z. Klin. Chir.,* Bd. xxxiii, 1902; *British Medical Journal*) comment on the cases of non-malignant disease of the stomach treated by Czerny's clinic between 1882 and 1901. The cases numbered 104, with a mortality after operation of 9.5 per cent, and the operations were as follows: 80 gastroenterostomies, with 5 deaths; 11 pyloroplasties, with 1 death; 4 resections of the pylorus, with 2 deaths; 7 excisions of ulcer, with 3 deaths. The conditions treated were: 67 cases of ulcer, 57 of stenosis, 9 of neurosis, and 10 of cholelithiasis. Whereas the earlier gastroenterostomies were attended with a mortality of twenty-two per cent, those operated on since September, 1895, showed only four-per-cent mortality. These improved results were not due so much to any improvement in technique as to the better condition of the patients operated on, the number operated on as a last resort preponderating during the earlier years. For hemorrhage four cases were operated on—three by gastroenterostomy, and one by excision, the latter being fatal.

In spite of the appearance of being unsurgical, the simple emptying of the stomach is recommended with gastroenterostomy by Murphy's button, and the opinion expressed that many patients with severe gastric hemorrhage can be saved by this means who would otherwise succumb if treated on conservative principles or by other operative precedures. Gastroenterostomy was combined with suture in fourteen cases, with the button in sixty-five (exclusively with the latter since 1896); and von Hacker's method of gastroenterostomia retrocolica posterior is specially recommended, regurgitation being said to be avoided by this procedure. Abso-

lute indications for operations are: pyloric stenosis with marked mechanical insufficiency, steady decline in weight, acute hemorrhage. Relative indications are: atonic mechanical insufficiency, severe gastralgia, frequent vomiting, and chronic hemorrhage.

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### The Prevalence of Herpes Zoster.

Max Joseph (*Philadelphia Medical Journal,* Oct. 25, 1902) says that in frequency herpes zoster causes one per cent of all skin diseases. There appears to be no difference in the occurrence of this disease in men and women.

Herpes zoster is a disease of youth (fifteen to thirty years), noted, according to the writer's statistics, in two-thirds of the cases. Before school age the disease is very rare; during school it becomes more frequent; after thirty years its frequency diminishes; and in old age it is rare.

So far as regards the region of the body affected, herpes zoster is, in general, more frequent the more nerves supply the region. There is one exception to this rule, both from Joseph's observations and those of Greenough, namely, an exceptionally large number of cases in the trigeminal region. This may, perhaps, be due to the fact that the region supplied by the trigeminus is more open to injury and disease than any other region.

Both sides of the body are apparently affected with equal frequency, bilateral herpes zoster being rare.

Zimmerleni says that herpes zoster occurs among physicians and nurses in epidemic form; no other occupation seems to predispose to the condition. The final settlement of this point can only be made by consulting industrial and hygienic statistics.

Epidemics of herpes zoster occur in the spring and fall. Sporadic cases occur with almost equal regularity throughout the entire year, though some increase is noted in the spring and autumn months.

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### Transplantation of Tumors.

Loeb (*Journal of Medical Research,* vol. viii, No. 1, p. 44) reports a further series of successful transplantation of tumors found in white rats into animals of the same species, especially a series of transplantations of the sarcomatous part of a mixed tumor. The growths were definitely ascertained to be real sarcomata and not granulomata. The sarcomata found in different rats showed some structural differences based on differences in the cells, on differences in the formation of fibers, and in the degen-

erative processes which take place; these differences were reproduced through about forty and eight generations respectively. After transplantation many of the peripheral cells of the fragment remain alive and mix with the growing connective tissue of the neighborhood. It is very probable that these cells give rise to the tumors after transplantation. In this series all attempts to produce tumors by transplantation into other animals—white mice, guinea-pigs, rabbits—have been without result. The injection of cystic fluid or of a fluid obtained by mincing the tumor with normal salt solution did not produce sarcomata; negative results, therefore, which were obtained with fluid filtered through different varieties of filters, cannot be regarded as indicating the character of the tumor-producing agency. Local metastases and contact metastases were also formed in this series of transplantations.

A series of experiments were undertaken to determine how long pieces cut out from tumors could be kept on ice and yet develop sarcomata after transplantation. Pieces kept thus one, two, and five days developed in each case several tumors, which proves that the tumor-producing agency is not destroyed or even markedly attenuated by the exposure.

An adenoma of the mammary gland was also the subject of experiment. Pieces transplanted into the same animal remained alive and underwent afterward the same cycle of changes as that part of the original piece which was left during the operation; pieces transplanted into other rats became almost entirely necrotic.

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### Uremic Aphasia.

David Reisman (*Journal of the American Medical Association,* Oct. 11, 1902) says that aphasia may occur in uremia, and is at times the sole expression of that state. It may be a precursor of uremic convulsions or coma, and it is frequently associated with right-sided motor paralysis, hemiplegic or monoplegic in character. It is usually of a motor type, but may be sensory. There may be word blindness and word deafness. It may be associated with agraphia, even when there is no paralysis of the limbs. It is comparatively frequent in children, particularly in cases of postscarlatinal nephritis. In adults it may occur in any form of Bright's disease. It is generally transient, and has a marked tendency to recur. When paralysis is present the two may disappear simultaneously; the aphasia usually disappears first. The features of uremic aphasia are, *per se,* not characteristic of the causal condition. The most important diagnostic features

are the transitoriness of the aphasia and the presence of other uremic symptoms or of signs of nephritis. In every case of sudden aphasia the possibility of its being renal in origin should be considered, and careful studies of the urine and of the system at large should be made with this thought in mind.

## THERAPEUTICS.

### The Treatment of Hemoptysis.

Being particularly struck by the immediate effect of subcutaneous injection of gelatin in a case of hemoptysis in phthisis after all other means had failed, O. Neidner (*British Medical Journal,* November, 1902) observed the action exactly, and noticed that the solution was but slowly absorbed, and that the movements of the affected side of the chest were practically stopped by the tense swelling caused by the fluid. It therefore occurred to him that the effect might be greatly due to the limitation of movement of the bleeding organ. He considered that if one attempted to carry out a mechanical treatment, one must employ a method which is (*a*) easily and quickly applied to the chest without disturbing the patient much; (*b*) which does not press too much at any given place, but (*c*) is capable of fixing the affected part; and (*d*) which can be worn for days or weeks.

The author had an opportunity of applying this method to six cases of severe hemoptysis which came into hospital on account of the bleeding. For this purpose he used strips of "Helfenberg" rubber plaster, cut into widths of 3 centimeters (¾ inch), and in lengths of 60 centimeters (about 2 feet). Twelve of these strips were used for each strapping. In five of the cases the effect was both rapid and complete, and in the sixth it appears that it would have worked satisfactorily had the external conditions been more favorable. The patient was a female, aged twenty-four years, and was admitted for pain, giddiness, sweating, and hemoptysis, which latter continued in spite of the usual remedies being applied, including internal administration of gelatin. Neidner thereupon strapped the right side of the chest (this was the affected side), and the hemorrhage ceased to a great extent. The strapping became loose, and the patient employed her spare time in playfully pulling the corners of the strips. On the following day he applied a fresh strapping, and prescribed agaricin for the night sweats, and the sputum became less colored and less plentiful. The patient then became daring, and as soon as she noticed she was not watched she sat

up to write letters, etc., in spite of repeated warnings. There was no actual hemorrhage, but the patient left hospital too soon after to admit of any definite conclusions being formed.

Neidner considers that his good results justify him in asking others to try this method, and when a larger number of cases have been so treated the value of the method will be clearly shown.

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### X-rays in the Treatment of Cancer and Other Malignant Diseases.

Emil A. Grubbe (*Medical Record,* November 1, 1902) draws the following conclusions: (1) The *x*-ray is the remarkable therapeutic agent of the last decade. (2) In properly selected cases of so-called "incurable conditions" the *x*-ray has brought about remarkable results. (3) Relief from pain is one of the most prominent features of the treatment. (4) Retrogressive changes are noticed in all primary cancer or tuberculous growths. (5) The *x*-ray has a pronounced effect upon internal cancers. (6) The greatest value of the *x*-ray is obtained in treating post-operative cases to prevent recurrences. (7) The proportion of clinical cures by this treatment is greater than that obtainable by any other method of treatment. (8) We are positively justified in assuming an idiosyncrasy to *x*-rays. (9) The peculiarities of each case must be studied in order to get the best results—*i.e.,* no strict rules for treatment can be laid down. (10) Dermatitis, if properly produced, is within certain limits a desirable feature of *x*-ray treatment. (11) Since the vacuum of an ordinary *x*-ray tube changes constantly, such tubes are useless for radiotherapeutic work, and only tubes which allow of perfect control of vacuum should be used. (12) The *x*-ray has a selective influence upon cells of the body, abnormal cells being affected more readily than the normal. (13) Hemorrhages and discharges are decidedly lessened and ultimately cease in the majority of cases. (14) Even in the hopeless, inoperable cases, the *x*-ray prolongs life, makes the patient comfortable, and the last hours free from pain.

The use of the *x*-ray is, without doubt, a very valuable addition to the therapeutics of malignant diseases, and cannot demand too much attention from the progressive physician.

Whatever may be the real action of the *x*-ray in these diseases, the results obtained certainly have been astonishing, and while it would be premature to claim that malignant diseases can positively be cured, it is to be hoped that further investigations may surpass our expectations.

## RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

### Hemorrhage After Tonsillotomy.

Dr. Escat, of Toulouse, reports in the *Revue Hebd. de Laryngologie,* etc., September 27, 1902, an interesting case of severe hemorrhage after the removal of a faucial tonsil. The tonsil removed was a typical hypertrophy, the pillars adherent, many of the crypts full of secretion; the supratonsillar portion being especially affected. The tonsil was removed under cocaine. Anesthesia and severe hemorrhage began at once, and the usual gargles and styptics had no effect. Compression also was attempted without result, nor was it possible to stop the hemorrhage by the use of the galvanocautery. The writer attempted with success a different procedure, introducing a suture through the upper portion of the posterior pillar, bringing it forward and passing it through the anterior pillar, then suturing again the posterior pillar to the anterior pillar in its lower portion. A cylindrical canal was thus formed. Before tying either of the sutures a cylindrical tampon of about the length of the little finger was introduced with forceps between the sutures, and these were then tightened around the tampon, with the result that the hemorrhage was completely arrested.

## GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

### The Causes, Prevention, and Cure of Puerperal Convulsions.

Robert Reyburn (*American Medicine,* Nov. 1, 1902) says the indisputable fact that puerperal eclampsia occurs most frequently in primiparæ and in young women in the prime of life would seem to indicate clearly that it must be caused by a toxemia resulting from deficient metabolism and the retention of effete and waste products in the body. What is the cause of this toxemia? How can it be remedied? We are strongly convinced that the cause is a very simple and obvious one, and that this disease is due to the non-assimilation of the large amount of meat and other nitrogenous foods consumed by the majority

of pregnant women. After the initial stage of suffering from nausea and vomiting has passed, to which many women are subject during the early months of pregnancy, the appetite is apt to become abnormally keen. Patients are encouraged to gratify this abnormal appetite by their friends, and even if the appetite should fail they are urged to eat largely (it appears a popular superstition that it is necessary for them to do so in order to nourish properly themselves and their unborn offspring). Another reprehensible practice is the prescribing by physicians of alcoholic drinks of various kinds at meal-times for the purpose of stimulating the flagging appetites of pregnant women. Harm is done by this practice in two ways: first, by stimulating the appetites of these patients, inducing them to partake of more food than they require, and secondly, alcoholic drinks (beer, wine, etc.) diminish the metabolism and encourage the retention of effete matters in the body. Two other factors entering into the causation of this disease are the neglect to take sufficient exercise in the open air, and neglect to keep the skin in healthy condition by frequent bathing and brisk friction.

Reyburn says that if albumin is found in the urine (especially if accompanied by deficient excretion of urea) it shows that the elimination of waste material is abnormally lessened; purgatives and diuretics should be given. Hydrotherapy with diminution of or total abstinence from nitrogenous food and alcohol is also a powerful adjunct in the treatment of these patients. The really curative method in this disease is to increase the eliminative powers of the system so that the body can excrete these morbid products. An ancient orator was asked what were the three great requisites for effective oratory. He answered, "Action, action, action." We would paraphrase the above statement in regard to oratory by saying that the three requisites for the successful treatment of puerperal eclampsia are "elimination, elimination, elimination."

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### Labor Obstructed by Two-headed Monster.

Boyd (*American Journal of Obstetrics,* September, 1902) reports that he was recently consulted about a primipara, aged twenty-one, who had been in labor for more than one day without any appreciable advance of the presenting part. The patient's general condition was good. The pelvis was a little below the normal size. The abdomen was irregular in shape, suggesting a fibroid tumor or ovarian cyst complicating pregnancy. The fetal heart was inaudible. The cervix was dilated to the size of a

silver dollar and the membranes were ruptured, whilst the head, with the occiput posterior, was well engaged. On applying the forceps traction failed to advance the presenting part. On manual exploration a second head was found attached to the single trunk. As the patient's condition did not warrant abdominal section, the uterus was emptied by decapitation of the presenting head followed by podalic version. Boyd figures and describes the dicephalic monster.

## NEUROLOGY.

UNDER THE DIRECTION OF CHARLES W. HITCHCOCK, M.D.,
Attending Neurologist to Harper Hospital.

### The Criteria of Insanity and the Problems of Psychiatry.

A thoughtful paper with this title is that by E. Stanly Abbot, printed in the July number of the *American Journal of Insanity*. He inquires by what methods we shall best scientifically study the insane, and points out that methods will suggest and develop themselves, provided we first know clearly what the problems are whose solution we seek.

He then reviews various definitions of insanity, pointing out the inadequacy of each, denying incidentally Krafft-Ebing's claim that it is a logical and self-evident consequence "that the brain is diseased because a man has a delusion." He sums up as the real criteria of insanity:

1. The real environment of the individual.
2. His conception of that environment.
3. His affection or emotional reaction to this conception, and the influence of this reaction upon his subsequent conceptions.
4. The proportion between the purposes and acts on the one hand and the environment on the other.
5. The individual's standards and habits of action as influenced by his bringing up.
6. The internal necessity or voluntary choice of his thinking, feeling, and acting as he does.

In accordance with the above, the writer says, "we may define insanity as a morbid condition of the mind which renders it impossible for the conscious individual to think, feel, or act in relation to his environment in accordance with the standards of his bringing up."

# THE MEDICAL AGE

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## ORIGINAL CONTRIBUTIONS.

### A CONTRIBUTION TO THE STUDY OF HERPES PROGENITALIS.

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The etiology of herpes progenitalis is as variable and manifold as that of psoriasis. The treatment heretofore instituted has been purely empirical, for there was no rationale upon which to base our therapy. In the opinion of the writer a systematic classification of the causative factors underlying this malady would materially contribute to a more lucid understanding of the affection, and would be also conducive to a more rational mode of treatment.

In the subjoined paragraphs the author will endeavor to acquaint the reader with the etiology of the above dermatosis, its symptomatology, and the differentiation from other morbid lesions closely simulating the subject under consideration; succeeded by a brief discussion of the pathologic anatomy, and an outline of the manner and mode of therapeusis, in conformity with the causative agencies productive of an attack of herpes progenitalis.

Before entering on the subject proper, however, it may not be amiss to state that herpes progenitalis may involve any or all of the following regions:

1. The inguinocrural fold and the lower third of the hypogastric area, together with the upper third of the inner aspect of the thigh.

2. The integument of the penis, the prepuce, the glans and its sulcus, and the integument of the scrotum.

3. The perineal region to within one-half an inch of the anus, the ischiorectal space, and the lower gluteal area.

In dermatologic practice we are able to discern two chief

varieties of herpes progenitalis, viz.: (1) That due to a peripheral neuritis with preceding or complementing subjective symptoms, as dermatalgia and pruritus; (2) that due to a vasomotor paralysis with less marked subjectivity and characterized by dilatation of the capillaries supplying a particular region of the urogenital tract.

These two main forms may be brought about by any of the following causes:

(*a*) Neuroses of a hereditary type.

(*b*) Debilitating diseases—especially the infectious and exanthemata—may leave in their wake a depraved condition of the economy, favoring the frequent occurrence of herpes progenitalis; to this category also belong the divers pathologic states of the blood, as anemia, chlorosis, hydremia, leucocythemia, uremia, etc.

(*c*) Autotoxemia, due to gastrointestinal derangements and the ingestion of unwholesome, indigestible, and obnoxious articles of food.

(*d*) Drug intoxications, notably those of the salts of metals, as mercury, silver, lead, zinc, and the various compounds of iodine; the continuous use of some of the active alkaloids and the habitual imbibition of malt liquors and alcoholic beverages.

(*e*) Senile degeneration, predilectively invading the peripheral nerve filaments of the cutaneous surface, is a very potent cause in the production of herpes.

(*f*) Neuroses and psychoses acquired postnatally and during adolescence; neuropathologic states of the central and sympathetic nervous system, and the peripheral nerve structures.

(*g*) The different dyscrasiæ and cachexiæ, to wit: Syphilis, tuberculosis, malaria, the uric and lactic acid diatheses, diabetes, scurvy, and not infrequently leprosy. (Cases are on record of the repeated occurrence of herpes progenitalis in leprotics.)

(*h*) Local conditions. Among these may be enumerated the following: an elongated and constricted prepuce, the bacillus smegmæ, irritating discharges from the genital tract, especially gonorrheal secretion, and that caused by chancroids and vegetations; the menstrual flow; vaginal discharges due to uncleanliness, specific causes, or to the trichomaines vaginalis.

(*i*) Overexcitation of the glans penis and prepuce through excess in venery or by masturbation.

(*j*) A peculiar darthic diathesis or predisposition on the part of the individual to the affection under discussion, with or without participation of any of the above etiologic factors, as evidenced by recurrent outbreaks of herpes progenitalis.

(*k*) Reflexly, by oxyuris vermicularis and ascaris lumbricoides, prostatism, sexual neurasthenia, spermatorrhea, prostatorrhea, etc. It may be remarked right here that children are by no means exempt from progenital herpes, judging from quite a number of cases observed in children's homes.

(*l*) And last but not least, a special bacillus has been attributed with the pathogenesis of the eruption.

But little can be said of the symptomatology of this affection, for in no disease do we find so well marked characteristics as in urogenital herpes. A few points, however, must always be borne in mind upon entering a conclusive diagnosis, viz.: (1) The *grouping* and *concentricity* of the lesions; (2) the *subjective symptoms,* which almost always precede or accompany them, at least in seventy-five per cent of all cases.

The most significant and important features in the diagnosis may be formulated as follows:

1. *The multiplicity and grouping of the lesions—i.e.,* we commonly encounter a number of vesicles arranged in a circular or semicircular manner, usually situated upon the distribution of the periphereal nerve filaments. More than one group can in the majority of cases be detected.

2. The presence at some time during the course of the dermatosis of pruritus and pain.

3. The indefinite period of incubation which differentiates it from the simple multiple chancroid, which period of incubation never exceeds ten days.

4. The absence of induration or cartilaginous thickening at the margin or border of the individual group or circle, thus eliminating the probability of an initial sclerosis.

5. The lesions are destitute of any moisture, unless the vesicles have been irritated or have ruptured spontaneously or accidentally, when it assumes a serous, or if infected a purulent, secretion.

6. The lesions become covered with crusts soon after the absorption of the serum in the vesicles, a state of affairs seldom, if ever, exhibited by the chancroid.

Resolution of the vesicles is accomplished within six to ten days after their appearance, leaving behind a pinkish area, which soon fades, however, the skin returning to its normal color devoid of any stigma to mark the former site of the original lesion.

These few diagnostic points should amply suffice, the writer has reason to believe, to establish a correct diagnosis and serve to eliminate the possible existence of other lesions with which herpes progenitalis may erroneously be confounded. It is obvious that

a tabulation of the differential points relative to the chancroid, the initial scleroma, and preputial vegetations, would be unnecessary and superfluous, provided the above features of the affection be kept in mind.

*Morbid Anatomy.*—Whatever the cause of herpes progenitalis be, either one of the following two chief pathologic states of the peripheral nerve endings supplying the urogenital tract is apt to be present, namely, a *peripheral neuritis,* or a local *vasomotor paralysis.* The former condition is in almost every instance followed sooner or later by the latter. The inflammation takes place in the epineurium, compressing the neural cells or parenchyma to such an extent as to induce a curtailment in the conductibility of the nerve current. The nervi vasorum, deprived of their functional activity, engender trophic disturbances in the tunic of the capillaries, which soon become manifested by a diapedesis and exudation of serum between the cutis vera and the layers of the epidermis, resulting in the formation of vesicles. Absorption of the serum exudate and inflammatory deposit of the nerve sheath takes place within six to ten days, when the regions involved are brought to a *restitutio ad integrum.*

French dermatologists have detected pigment crystals resembling indican within the epineural covering; these pigments are probably due to a retrogression or decomposition of the blood coloring matter, which was transfused during the process of chemotaxis.

The treatment should be directed toward the removal of those causative factors favoring the occurrence of herpes progenitalis. In a great number of cases an attack of herpes can be early subjugated or aborted, if not entirely prevented. Our efforts should, therefore, consist in the detection of the causes instrumental in the production of the subject under consideration and their immediate eradication. We should invariably attempt to barricade all avenues to the future entrance of the foe, so to speak.

Of course, in cases of hereditary neurotic predisposition, or in the so-called "darthic diathesis," but little if anything can be accomplished in the establishment of a permanent cure, for notwithstanding our utmost endeavors, the malady will exhibit a marked obstinancy, and in spite of all our thereapeusis, shows persistency and a tendency to recur.

If the malady be due to a depraved condition of the blood, hematinics, notably the compounds of iron, arsenic, and manganese, may be tried.

The amount of carbohydrates should be restricted, as they tend to produce flatulency, and besides, tax bodily oxygenesis,

thus calling into play an increased expenditure of neural force. Indigestion should be avoided as much as possible, and only easily digestible, nutritious, and wholesome food be allowed. Pickled articles of food and various condiments must be interdicted, as well as dishes of the crustaceans. In no way shall the patient partake of such substances as are apt to create autotoxemia by virtue of their decomposition within the prima via, and the formation of ptomaines and leucomaines.

In deranged conditions of the alimentary tract, some of the simple bitters are very valuable, and may be profitably combined with some preparation of cascara. Malt liquors and spirituous beverages, as well as tea and coffee, are not well borne in those cases, as they invariably excite the neural element.

If herpes be due to the cumulative action of some of the metallic salts, their administration should be immediately discontinued, and not resumed until all traces of their existence are obliterated.

Senile degeneration requires a tonic course of medication, the judicious use of phosphorus, arsenic, and strychnine.

If herpes is the result of acquired functional neuroses or psychoses, or actual pathologic states of the nervous system, we are oftentimes forced to resort to the exhibition of some of the analgesics, sedatives, and nervines, as codeine, cannabis indica, hyoscyamus, camphor, valerian, the salts of zinc (preëminently the phosphide), and tentatively the bromides.

We often encounter cases of progenital herpes which are undoubtedly the concomitant of uricemia; under these circumstances we must utilize the salts of lithium (preferably the citrate and benzoate), potassium, and sodium, in conjunction with colchicum. If the lesions are but an indication of the lactic acid diathesis, we must needs direct our attention to the salicylates, iodides, and the pure oil of betula lenta.

Not infrequently do we meet herpes progenitalis in the later period of the secondary stage of syphilis, in individuals who have never been subject to an attack of herpes before, as it will be shown in the appended report of cases.

The writer is not prepared to state at this particular time in what relation these two affections stand to each other. Tuberculosis may likewise induce recurrent attacks of herpes, if reliance be placed upon report of cases in the practice of some French observers. Under those circumstances we will do well to put the patient on specific medication and adopt the usual treatment recommended for tuberculosis.

The treatment of herpes progenitalis originating from local

causes depends chiefly upon the particular factor exciting an occurrence. Thus, in cases of herpes consequent to the decomposition of smegma, cleanliness is the main remedy to be relied on. When the prepuce is too elongated or tight, circumcision will obviate the trouble and serve as a valuable prophylactic to future herpetic manifestations. Discharges of any kind emanating from some portion of the genital tract must be checked before herpes can eventually be made to yield.

To whatever local condition we may ascribe the existence of progenital herpes, and in whatever manner the dermatosis be brought about constitutionally, the indications for treatment may be summed up as follows:

1. Remove the cause and treat any systemic disorder acting as an exciting or predisposing factor.

2. Observe strict cleanliness of the parts involved.

3. Use protectives to exclude any irritation or infection of the lesions.

4. If the latter has occurred in spite of our efforts at prevention, treat the resulting ulcer antiseptically with the various agents at our command.

The first of these measures has received ample consideration in a preceding page. The second can be easily secured by daily ablutions of warm water, to which a small amount of boric acid or sodium biborate has been added, after which the area may be dried with a pledget of absorbent cotton, and one of the following protective powders or solutions applied:

℞ Bismuthi subnitr.,
Acidi boracici..... ää 5iij.
Aristolis ..... 5ij.

M. et fiat pulv.

Or,

℞ Zinc. oxidi,
Bismuthi subnitr ..... ää 5iij.
Pulv. acaciæ,
Europhen ..... ää 5ij.

M. et fiat pulv.

Prior to the application of the above formulæ, it is advisable to moisten the regions with a little glycerin, in order that the powder should properly adhere to them. Chemically pure talcum or the palmitate and stearate of calcium and magnesium, to which ten per cent of ichthyol or balsam Peru has been added, will admirably serve the purpose.

In cases where the lesions are situated on the glans or prepuce, they should be protected from friction, pressure, or irritat-

ing secretions by separating these two structures by means of a piece of sterile gauze containing a slit in the center, through which the glans penis is passed and the prepuce drawn over it. When the vesicles are located in the space between the scrotum and thigh, they should be covered by borated gauze and a loose bandage applied.

Should this for obvious reasons be inexpedient or impossible, then the areas may be protected by painting them with flexible collodion containing any of the above enumerated combinations in solution or suspension. After evaporation of the ether, a pellicle is left behind which sufficiently protects the parts, besides enabling the incorporated remedial agents to exercise their medicinal effects.

Where the lesions have ruptured either through friction or spontaneously, and have become infected, we must endeavor to keep them scrupulously clean and free from all accumulating discharges, by washing them with some mild antiseptic solution, as boric acid, lysol, etc.; following this, any of the above mentioned preparations may appropriately be applied. At no time should we attempt to cauterize these ulcers or use any strong antiseptic or irritant, unless they be contaminated by concomitant chancroidal pus, and even then with a great deal of care and circumspection.

Strong applications should be avoided lest the patches assume an angry and eczematous character and the result be worse than the original lesion.

When thus treated, the vesicles soon desiccate and become covered with an insignificant crust, under which epithelial regeneration takes place. The crust ultimately falls off, exposing a pink area, which soon fades to the color of the normal skin.

The entire cycle is completed in ten days.

In conclusion, the author wishes to annex a report of cases which may serve as an adequate illustration of the topic heretofore discussed.

*Case 1.*—M. W——, aged thirty-five, mulatto, waiter, married, presented himself for treatment. Family history: father died of phthisis pulmonalis. Previous history negative. He has always been of slim stature (weighing not more than 110 pounds) and of delicate health.

*St. pr.:* Contracted a meatal chancre a year ago, which was soon followed by the secondary symptoms of syphilis. He has received appropriate treatment, with rapid disappearance of all symptoms, and his general health has remarkably improved. Since the first manifestation of the syphilides he has repeatedly

noticed scattered vesicles on the integument of the penis; they remained stationary for about three or four days, after which time they dried up, became covered with scabs, and ultimately disappeared. He always experienced a burning sensation and some pruritus at the site of the lesions. The present eruption is his fourth attack.

Examination revealed the presence of two groups of herpetic vesicles, situated on the integument of the prepuce, unbroken and extremely sensitive to the touch.

*Treatment.*—This consisted in the administration of the syrup of hydriodic acid in conjunction with the hypophosphites and zinc phosphide, together with the topical application of a dusting powder, composed of equal parts of boric acid, bismuth subnitrate, and aristol. He was directed to moisten the areas with some glycerin prior to the application of the powder. Under this régime the vesicles soon vanished. He was advised to continue the internal medication for at least four or five weeks. Four months have elapsed since this last attack, during which time he has been unmolested by any recurrences.

*Case 2.*—M. S——, aged twenty-four, American, clerk, unmarried. Family history reveals a neurotic tendency. Past history negative, except for some of the exanthemata during early childhood and for recurring attacks of the present malady.

*St. pr.:* Almost invariably after coition he noticed several groups of vesicles, situated either on the integument or mucosa of the prepuce, or upon the glans. There is some smarting sensation accompanying the eruption of the lesions. The period of incubation is indefinite and varies with each individual attack, at an average from two to six days. The lesions, when mature, occasion considerable discomfort. They make their departure within about ten days from the date of onset. The prepuce is somewhat elongated, although not constricted, being freely movable; the preputial sulcus is filled with smegma. A few groups of herpetic vesicles are visible on the glans penis, near the corona.

*Treatment.*—He was advised to cleanse the prepuce and glans scrupulously with hot water (to which some boric acid has been added) after coitus, and dust on a powder, composed of boracic acid, zinc oxide, and europhen, subsequently. Valerianate of zinc in conjunction with cannabin and strychnine phosphate was prescribed as a prophylactic. He was told to report at the next recurrence of the vesicles.

*Later.*—Several months have elapsed since, and notwithstanding repeated coition he enjoys permanent freedom from the herpetic lesions.

*Case 3.*—M. McC——, aged twenty-eight, white, Irish, laborer, married. Family history negative. Past history: Patient states that he has had ulcers on the glans penis, which responded to local treatment.

*St. pr.:* This is his third attack. Herpetic vesicles are situated in the sulcus glandis; there are three groups of them. The prepuce is very tight, movable only with considerable difficulty, and the preputial cavity contains a quantity of foul-smelling and decomposed smegma.

*Treatment.*—Circumcision was performed, and the author has reason to believe that the possibility of recurrences may be excluded.

*Case 4.*—Geo. W——, aged twenty-seven, white, American, jockey. Family history negative. Past history: Has had pneumonia during childhood; gonorrhea about one year ago.

*St. pr.:* Period of incubation in this case was about ten days. He has experienced considerable pain and itching prior to the appearance of the lesions. Examination revealed about seven or eight groups of vesicles, irregularly distributed over the glans, prepuce, and integument of the penis. There is some glandular hyperplasia in the right inguinal region. Pruritus is marked, especially at night.

*Treatment.*—He was told to bathe the genitalia in warm water twice daily and then apply a drying powder composed of equal parts of boric acid, bismuth subnitrate, and zinc oxide. This is a recent case, and the writer was unable to gather supplementary information relative to any recurrence of this malady.

164 E. High Street.

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## THE MAMMARY GLAND—A PLEA IN EQUITY.*

BY C. C. LEWIS, M.D., OWENSBORO, KENTUCKY.

Heated competition and vigorous investigation in both surgery and medicine have left no region uninvestigated. The mammary gland is listed. In medicine there was a day when it occupied a position of enviable dignity, and was the subject of great comment and concern. In the days prior to the time when asepsis offered universal salvation, in the dark days of poultices, lancets, sarsaparilla, and iodide of potash, it could command all the attention needed. There were doctors then who acquired more than a local reputation in its care, that it might be made to fulfil its office.

*Abstract of a paper read before the Kentucky State Medical Society, 1902.

A quarter of a century finds these men quite changed. They will make use of such expressions as, "No use troubling a woman by having her nurse a baby; let her feed it upon any good brand of food from the laboratory; nursing will greatly fatigue the mother, she is not a strong woman, she is fond of society, and society needs her; the baby will get along all right, and really it is the best way to raise it; it avoids the toxic influences of the mother's milk after the late hours of a society function." What a criticism of a mother, without a point in score for lamented babyhood!

I am not fighting centralized capital, or condemning any brand of milk—I am simply for justice and the old-fashioned way; and when I recognize every day of my life a combination between doctor, society, and the unsympathizing man of commerce, I know it jeopardizes the interests of the baby and the lying-in woman. I know artificial foods will serve the purpose in a measure. The trouble is we do not protest against them enough. A great many good men under pressure of the day advise a woman to raise her baby on artificial food, when they know there is no reason for the adoption of so rash a procedure.

Converts to the habit of artificial infant feeding are easy to obtain. There is always a woman upon every square—a hustling woman who is a genuine, well equipped evangelist in the field of artificial feeding. She can describe minutely how Chapin recommended the use of "Cerio" as the dextrinizing agent, claiming that the cellulose or skeleton of the cell acts as the most effective attenuant of the curd. She has the formula mathematically correct, and can save the mother great trouble in calling at the milk laboratory as the age of the child changes. She is the lobbyist where the doctor, the nurse, and the lying-in woman meet, and she frequently keeps the doctor from that chagrin incident to a minority report. She remembers exactly how this woman, on a former occasion, suffered disaster by the loss of a nipple, and knows that it would be an unpardonable punishment to attempt the second time to nurse a baby; the doctor could not be so cruel!

The character is decidedly ubiquitous, is found in both the rural and city districts; and I am sorry to say good men lose their better judgment and consent to the raising of babies on artificial food when pressure is brought to bear upon them.

The profession is crowded, men clamor for recognition, and old men must do as hustling young men, or suffer the accusation of being out of date. No woman wants to nurse a baby if her doctor says no. She is perfectly willing to circumvent the unpleasant duty, and padded and painted statistics in the hands

of him who seeks admission and recognition in a good family are of easy avail. You cannot walk while your competitor exhibits such bursts of speed, yet you know of the troubles the heated months of the summer will bring in the crowded wards and apartment houses.

The influences which lead to consent upon the part of the doctor are numerous; he becomes a convert gradually, like fabulous stories told until they are clothed in the semblance of truth. Society recognizes the process of nursing a baby as vulgar, and the condemnation is contagious. Humanity suffers, while nature tolerates the insult.

I am not condemning emergencies, but discussing expediences. I am more than willing to consent to the use of artificial food when the case demands it, but the sin consists in giving consent for a trivial reason, and being party to a crime which I know is on the increase.

I have the most profound respect for the chemist who demonstrates to me that this or that combination contains that which approaches nearest to the ultimate and constructive elements of the human body. It is the indiscriminate use of artificial foods which we should condemn; we are the tutors in public sentiment, having a duty to perform with conviction and honest purpose.

Medical literature has grown along the line of infant feeding to almost a condition of obesity. Pediatrics is given over to this as its star act. It is as a mastoid to the aurist or an appendicitis to the surgeon. He who does not write of infant feeding is not loyal. The hustling man of commerce will see to it that mothers have all the aid that photography can afford in furnishing them with the reproduction of the faces of babies raised on artificial food, and the druggist, "thanks be it, the best friend that the doctor has," will place them in a prominent location.

I hope I am not misunderstood. I know that the profession of medicine is calculated to make one grow fretful of his lot. This may be the reason that those whom we term the "old liners" venture to indulge the hope that society would have been content to do without the matron, at least during the busy scenes of gestation.

I may be in poor position to receive sympathy or support. The throng which follows the urgent demands of hustling commercial life is on the increase. The pace is too fast to fortify placid justice which should control and measure the steps of honest medicine, and a fretful clientele always ready to circumvent that which requires precious time or thoughtful vigilance.

I am not making an uncompromising accusation that the

entire profession is committing an unpardonable sin, but simply expressing a fear that the sin is on the increase. Knowing how well our competitors take an inventory of our happenings in daily work, I feel that we are all competent judges, and are in a position to know. I have a knowledge of this, and so have you, and the truth of my assumption is the subject of your honest verdict, and calls for a combined effort to check the unwise practice upon the part of healthy women to attempt to raise healthy babies away from the support of a healthy breast.

I can but feel that we are making mistakes, that we are culpable, but have no right to occupy your valuable time to discuss the matter at length. I simply express regret that a gland which is the culmination of such anatomical beauty and excellence, and which is nature's purest legacy, should be the subject of such wilful neglect, and express an earnest hope that intelligent, honest doctors will linger to practice medicine in accordance with methods which will yield the greatest returns to an overcredulous humanity.

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Dr. Frank L. Lapsley, of Paris, Kentucky, in discussing this paper, said it was well known that many mothers of the present day who were perfectly capable of nursing their infants did not do so if they could possibly avoid it; that they would do everything to prevent nursing their infants, and were often encouraged in this attitude by physicians themselves.

He further stated that the seal of disapproval of the medical profession should be put upon the custom of manufacturers of artificial foods of sending out circulars and samples broadcast over the country into every household. He thought great harm might result from this custom, from the fact that babies might be thus given foods entirely unsuited to their age, and without regard to what was actually required in a given case, as no attention would be paid to the physical condition of the child or its needs. He related a case in point where it became necessary to take an infant from the mother's breast and put it upon artificial food; it was fed under his direction for a time, when samples and circulars were received into the household direct from the manufacturer of another preparation, and the mother, without his approval or consent, changed to the new food, which was entirely unsuited to the child's wants.

## THE HYDROTHERAPEUTIC TREATMENT OF TYPHOID FEVER.

BY HENRY B. FAVILL, M.D., CHICAGO, ILL.

I propose to confine my remarks to hydrotherapy, and that particular phase of it which is most valuable.

I think it will be agreed in general by those who are disposed to discuss matters consistently, and certainly by a large proportion of those who are teaching and practicing in hospitals, that hydrotherapy of the bath type is distinctly a proper thing in typhoid fever. Is that, however, the consensus of opinion in the profession as evidenced by their practice? If it is, I am thoroughly mistaken, and my remarks will be superfluous. If it is not, it furnishes a theme of what I shall say. Statistically, this question hardly deserves discussion. The statistics on this subject have grown large, and are overwhelming in the direction of indicating that the typical bath treatment, or the so-called Brand treatment of typhoid, yields decidedly a decreased mortality. Statistics are always deceptive, yet on this point they are so voluminous that we cannot ignore them. It is to be said in fairness to those who oppose the bath treatment that the statistics of it are perfect, and that the statistics of the other forms of expectant treatment are imperfect. In other words, the statistics in favor of the bath treatment, as compiled from various parts of the world, are quite prominent, as compared with the forms of other treatments. However, passing that by as a necessary fallacy that lies in statistics generally, let us consider what we are talking about.

What do we mean by the bath treatment of typhoid fever? Let us take the typical, original Brand bath. It may be defined as the vigorous rubbing and manipulation of a typhoid patient, well immersed in water of a temperature varying from 60° to 80°. I purposely put it in that form because I wish to emphasize the fact that the manipulation of the bath is an essential part of the process, and that the temperature is subject to variation, it being more a possible source of departure than the manipulation. That is what we mean typically by the bath treatment. What is the theory upon which this treatment is now carried on? Unquestionably, the theory originally with regard to this treatment was that it was an efficient, essential antipyretic measure. Is it now generally so regarded as a primary antipyretic measure? I think it will be agreed by those who have experience in the matter that although the antipyretic value of the bath is great and important,

it is a mistake to centralize our attention upon its antipyretic effect. The theory of this treatment is that its effect upon the patient is twofold: first, sedative; second, tonic. Practical observation by everybody who has had experience in this direction will enable them to draw this conclusion, that an adult patient, who is subjected to an intelligent administration of a cold bath in typhoid, typically and regularly, shows marked sedative effects, as manifested, first, by a feeling of comfort, as against a previous feeling of malaise; second, manifested by a tendency to sleep, as contrasted with previous restlessness and inability to sleep. Those conditions are distinctly marked in the ordinary, regular, typical bath.

The second phase of this important condition is said to be tonic. Upon what are we justified in basing that conclusion? First, an improvement in the cerebral condition, a condition of clearness of mind as against hebetude; of alertness as against indifference; of comfort, physical and psychical, as against distress. There is no question that this is a fair index of improved tone. Again, with reference to the digestive tract: first, typically a better digestion, as evidenced in two directions, namely, by the decidedly less typhoid character of the tongue, and by the almost invariable less tendency to meteorism. I do not wish to go outside of the facts in making these statements, but I think they are borne out by experience.

All of these various phenomena incident to the results of baths in typhoid, whether the patients recover or whether they do not, have been ascribed by those who theorize upon this matter to an improved elimination on the part of the patient. In other words, the bath is supposed to operate as a tonic, primarily, in reference to immediate shock; secondarily, as an eliminant of marked power over the individual. Whether this is so or not is inferential. It is based upon obvious improvements in what we have been regarding, I think, and are justified in regarding, as the evidences of toxemia.

Two facts stand together to bear out this idea of better elimination: First, that almost invariably there is a marked improvement, by which I mean an increase in the excretion of urine; that is typical, regular, and reliable. The other is something of which I do not know by experience, but which statistically or experimentally is presented to us, viz., that the toxicity of the urine, after and in connection with the bath treatment, is said to be increased, indicating larger excretion of toxins. Of this there may be some doubt. At any rate, I am not in a position to pass upon it. If, then, this is the theory that underlies these baths—

improvements of condition—and if time shall prove this theory to be sound, there can be little doubt that the bath treatment will be placed on solid foundation.

There are, however, modifications of the bath treatment which it is worth our while to discuss. Typically, a patient is taken out of his bed, with a temperature of 103°, 104°, or 105°, as the case may be, and suddenly immersed in a bath of a temperature of 75° or 80°, as the case may be. It is understood by foreign authorities, and some of the best authorities in this country, that this plan yields better results than does any modification thereof. My experience with that form of immersion is so much less than my experience with another that it is with some diffidence I express the opinion that there is a modification of the Brand treatment which in its clinical results is as good, and which in its practical results is much better. In a hospital, for two reasons, a modification is pursued. One is that the actual manual manipulation, the help necessary to immerse patients in the tub, take them out, and dispose of them in that way, is considerable, so much so as to essentially make it almost impracticable in many hospitals. It would not be impracticable, of course, in a large and well regulated hospital. It is not an unfeasible thing to do to administer the Brand treatment, pure and simple, in a hospital.

In my own practice I have departed from the Brand method of treatment, for this reason, which my experience has taught me to believe to be true, namely, that as good results can be obtained by another method, which I will describe in a moment. Private practice demands a modification of the Brand method. The practical affairs of life have to be considered. Therefore, our nurses, who are to be educated for private practice, should be educated in practical ways for it, and it is my opinion that it is as well for us to use a modification in our hospitals. We are all familiar with building in the bed a tub of any kind, either the Burr form or any other form; instead of immersing the patient in water by dropping him in, we pour the water over him, having sufficient assistance to submerge the patient. He is covered with a reasonable amount of water. The water in the tub heats more quickly than in the ordinary bath-tub, and in consequence the measures for cooling the water have to be somewhat different. Where the water is put in at a reasonable temperature, it can be cooled by adding pieces of ice repeatedly until the temperature is reduced to the desired point, and maintained there. My own observation is that a good way is to drop the patient in the tub, remembering in both cases that the friction of the patient is

kept up incessantly, which has an important bearing. The patient is kept in the tub for a variable length of time. Most any man who saw for the first time a typhoid patient in a tub of water would say that the patient was being maltreated, for the reason that he becomes cold, shivers, is blue, has distressing symptoms, and frequently implores us to take him out. This, however, is not really the case if we are accustomed to it. It looks like maltreatment, and it takes some experience to go on with it in the face of that; but after all, when a patient is once taken out of such a bath, and rolled in a blanket, he goes immediately into a state of repose, perhaps sleep, and sometimes continues sleeping for hours. That form of bath is practicable in any house, under any circumstances, where there is one person who can devote his attention to the patient, whether it is a trained nurse or not. I say this with emphasis, because it is true, and because the generally prevalent idea is not true. It is of the greatest importance that we come to recognize this can be done in any private house where there are no facilities at all. I do not mean now necessarily the surroundings of opulence.

The great difficulty in having this form of treatment adopted arises from the fact that the majority of patients with typhoid fever recover; hence, all of us are so accustomed to treating them through to recovery, that we expect them to recover without so much fuss. What fuss do we make? As they go on and get sicker and sicker we sponge and pack them; we do all sorts of quasi-therapeutic things to reduce temperature. Does anybody say that sponging or packing is distinctly tonic, sedative, or eliminant? It may be, but that is not the idea. The idea of these collateral, alternative procedures is to reduce temperature. But the reduction of temperature is not the point. The condition is the point, and I wish to say without equivocation and with the firmest conviction that the condition incident to the bath treatment is beyond any question better than the condition incident to any other form of hydrotherapy. It is rare in these days in hospital treatment that we see a typical status typhoidus. It is rare that we see a typical, classical typhoid state of the literature. Why? Because, whether the mortality is obviously and noticeably decreased or not, the condition of the patient, the severity of the attack, the general course of the disease, are inexpressibly milder, more manageable, more comfortable under the bath régime than under any other treatment I have ever seen, and I have seen the other in all its horrors. Let us assume, and we will assume a little, that the bath treatment is practicable in private practice with any nurse who is properly

trained. It is practicable with anybody who can give his or her attention to it in order to do it.

What are the difficulties in private practice? I will be answered by fifty physicians here to this effect, opposition on the part of the people. Is that a good reason? Obviously, if the treatment of typhoid with the bath is distinctly a better therapeutic measure, the moral obligation is so great that we cannot consider it as a cogent reason. If it is not a good reason, if it is not a sufficient reason, then it is up to us, so to speak, to do the very best we can for our patients. Opposition on the part of the people does not exist. It exists as a remonstrance, as a surprise, as a reaction to an innovation, but it does not exist as an irresistible, immovable obstacle, and it is entirely within the scope of the physician to go in and master the situation.

There are one or two points that I want to speak about. In the early baths, when the patient does not know what is going to happen, you had better not talk about cold tubs. The early bath should be spoken of as a bath. If you wish, give the patient a warm bath. Let the whole process be done with a warm bath until the patient gets over the newness of the situation. Let the first bath be, for instance, not cooler than 90°; the next one reduced to 80°; the third one to 75°, or to the point you desire it. In other words, display a little sense, and there will be no difficulty about it. In the second place, the earliness with which the typhoid régime is instituted and used is as important in the bath treatment as is the antitoxin for diphtheria. It is here we make a mistake. We wait until patients are very ill before we give the tubs. I say this from considerable experience: resort to the use of tubs early; do not wait for a diagnosis, if the temperature warrants the use of tubs. If the case is not typhoid, no harm is done; if it is typhoid, you have doubled and quadrupled your therapeutics.

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Professor Kende, of Budapest, has been engaged in exhaustive inquiries as to the relative sanitary condition of the armies of various nations, says *American Medicine*. He has come to the conclusion that the state of health of the German and French armies is the most satisfactory in Europe. The general condition of the French is less strong than that of the German army, the individual constitutions being more feeble. Austria suffers great waste in consequence of disease, and in Italy the whole sanitary condition is bad. He states that for every contingent of a thousand men Italy loses 9, Austria 6, France 5, and Germany only 4.

# THE MEDICAL AGE.

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## EDITORIAL ARTICLES.

### SHALL WE HAVE CHEAPER MEDICAL AND SCIENTIFIC WORKS?

Comparatively few books have more than a temporary life or value. Like the daily and the weekly newspaper, most of them serve an important present purpose, are read, and put aside. Even of standard works, new editions are constantly superseding the old; and although the work itself be permanently established, the individual copies have but a brief existence. To-day the book-stores are filled with "latest editions;" to-morrow these same volumes will be on the shelves of second-hand dealers. Few are worn-out in service, yet most of them are printed and bound as if they were to be used forever. As a consequence, the physician who wishes to keep in touch with the progress of his profession, or even of his specialty, must pay for a hundred expensive bindings of which he may not need five, together with a considerable bill for carriage, handling, and the like. So in the end few buy all they would like to have, and those who do must stand the increased cost of small editions.

It is no doubt more satisfactory to the book trade to handle fewer works at a larger price than a multitude of less expensive ones, the net profit in both cases being the same. Nevertheless, it is not difficult to foresee that the successful book-maker of the future will print for the whole professional body, as well as for a part of it, and be the gainer by it. To-day a publisher issues a severely limited edition of a really important work, charges four dollars a copy, and possibly loses money. The magazine publisher meanwhile puts into other shape an equal amount of matter at an aggregate greater cost (taking illustrations and all into account), and prints a hundred thousand copies, making a profit

by selling them at less than one-tenth the price of the book. And then, too, magazines come postage-paid, while most of the books of to-day are "net," postage extra. Printed on equally good paper and with the same type, the book could be sold in like quantity, bound the same, for the price of the magazine, or at least something near it. The option of choice between bindings could at the same time be offered the individual purchaser.

Of course, an enterprise of this character would have to be conducted with care and forethought, like any other publishing venture, and possibly with a preliminary outlay like that involved in starting a successful magazine. The first issue might not pay, or the second, or the third, for it would take time to convince the professional public of the high value of the plan. In the end, however, its success would seem to be morally certain. To a limited extent, high-priced, handsomely bound books will always be called for, and as certainly supplied. But to get nearer to the whole professional body, the publishers of periodicals may have to be met on their own ground. To the possible objection that newspapers and magazines have their advertising pages to help them, it can be said that a book in magazine form might carry appropriate announcements in the same way, and with a multiplied circulation its publicity would be as valuable. In a short time the newness would wear off the plan, and its wide-spread, economical service become apparent.

## EDITORIAL NOTES.

### New Theory of the Etiology of Appendicitis.

A new theory in regard to the etiology of appendicitis has been advanced by Dr. H. C. Howard, of Champaign, Ill. He says that the increase in the number of cases of appendicitis of late years is due to the change in the methods of milling flour. Up to 1875 cases of this trouble were exceedingly rare, and he asserts that the modern process of milling very white, fine flour, which takes from the grain nearly all the phosphates and leaves only starch and gluten, is chiefly responsible for the disease. He asserts that wherever a community has abandoned the old-fashioned, coarse flour, appendicitis has very soon made its appearance, the latest illustration being among the negroes of the South, who, while their bread diet was solely corn flour, did not know what the disease was. As the use of fine, white flour has increased, appendicitis has made its appearance among them with most disastrous results.

### The Etiology of Puerperal Eclampsia.

A fresh theory, and one supported by considerable evidence, regarding the causation of this much dreaded condition comes from Professor Stroganoff, of St. Petersburg. Stroganoff noticed in the St. Petersburg Midwives' Institute a number of cases of eclampsia which none of the existing theories could account for. He then made a careful analysis of the literature of the subject, and arrived at the conclusion that the disease is caused by an air-borne contagion, which infects the patient through the respiratory tract. Women only during the puerperium are susceptible, while men and children are not at all. As the problem of the etiology of eclampsia is one that has as yet not been satisfactorily settled, this latest theory is worthy of the attention of obstetricians.

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### The Treatment of Enuresis.

The treatment of this troublesome affection of childhood is discussed by Karl Walko in the *Zeitschrift für diatetische und physikalische Therapie* for September, 1902. Walko reports ten cases of pure idiopathic enuresis cured by massage of the neck of the bladder. The massage is given bimanually, the index-finger of one hand being inserted into the rectum, and the other hand being placed anteriorly above the pubis. Walko claims that two or three of such treatments will cause permanent recovery. Good effects followed its use in epileptic enuresis, enuresis with cystitis, traumatic and hysterical enuresis. This simple procedure in this vexatious disorder of childhood is well worthy of a trial.

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### The Use of the Metric System.

Why medical students are still taught the antiquated system of apothecaries' weights and measures is hard to answer, but it is a fact that the majority of medical colleges in this country still cling to the old method. Many an error has been made in the past by druggists who, owing to the almost unintelligible signs made by the majority of practitioners, have mistaken the sign $\bar{3}$ for a $\bar{z}$. While it is hardly probable that the older medical men will ever change from the system which is so familiar to them, the younger generation ought to be taught the use of the metric system, which is bound to become the universal one.

# ITEMS AND NOTES.

THERE are at present over a dozen lepers under treatment in the St. Louis Hospital, Paris.

DURING the month of October seven cases of plague occurred in San Francisco, all ending fatally.

DR. JACQUES LOEB, of Chicago, has been appointed professor of physiology in the University of California.

THE second meeting of the Latin-American Medical Congress will be held in April, 1904, at Buenos Ayres.

THE citizens of Calumet, Michigan, have erected a public hospital sufficient to accommodate twenty-five patients.

THE office of advisory physicians to the post-office has been abolished in all cities having 500,000 population, or less.

CHOLERA has reappeared among the men in the Fifth Infantry stationed at Manila. A number have already died, and many others are seriously ill.

THERE has been established in St. Petersburg a medicine bureau, the object of which is to furnish medical companions to patients going to European summer resorts.

THE natives of India instead of opposing the wholesale inoculation with plague serum as a prophylactic are giving their coöperation, and the work is progressing satisfactorily.

A NEW form of death certificate has been adopted by the New York State Board of Health. It follows closely the one prepared by the committee on demography of the American Public Health Association.

IN the event of Rush Medical College raising the sum of $1,000,000 before July 1, 1903, the trustees of the University of Chicago have agreed to receive the medical school as a part of the University of Chicago.

AFTER a service of over twenty-five years Prof. Wm. Rose, professor of clinical surgery and senior surgeon to King's College Hospital, London, has resigned, and has become emeritus professor of surgery to the hospital.

The Philadelphia College of Physicians announces that the next award of the Alvarenga Prize, amounting to $180, will be made July 14, 1903, provided an essay deemed by the committee of award worthy of the prize shall have been offered.

The Pan-American Sanitary Congress met in Washington on December 2. The object of the conference was to definitely discuss some practicably universal plans for the prevention and suppression of yellow fever and other plagues in pan-American ports.

At a conference on the pecuniary gains of the medical profession, it was stated (London *Lancet*) in regard to one of the leading physicians in Paris that, when twenty-eight years of age, he had cost his family for his education about $10,400. In his first year of practice he earned about $135; in his seventh year about $1065.

A French investigator has recently come to the conclusion, says *American Medicine,* that the brains of military men give out most quickly. He states that out of every 100,000 military men 199 become hopeless lunatics. Of the liberal professions, artists are the first to succumb to brain strain, next lawyers, followed at some distance by doctors, clergymen, literary men, and civil servants. Striking an average of this group, 177 out of each 100,000 become insane.

During the first nine months of 1902, says *American Medicine,* 250 men and 98 women committed suicide in Vienna, and 367 other people made the attempt unsuccessfully. In age these persons ranged from a man of eighty-seven and a woman of eighty-six to a boy of fifteen and a girl of three. The cause changed with the season. In spring and summer unrequited love was most prominent; in autumn and winter the chief incentive was poverty. Women preferred jumping out of windows, poisoning, and drowning; men tried shooting, hanging, and throwing themselves before trains.

The National Association for the Study of Epilepsy held its annual meeting at the New York Academy of Medicine on November 5 under the presidency of Dr. Frederick Peterson, of New York. In the course of his address Dr. Peterson said that the Craig Colony of New York can care for 1126 patients, with property valued at $666,500. Eighty of the inmates attend school. The cost is $3.15 per week. There are at least 500 more, according to the census, requiring such care. Massachusetts has

expended $85,900 on her colony for the epileptic, and of the 1440 epileptics of that State she is caring for 440, at a cost of $4.50 a week; twenty-four are in school. New Jersey, with 1500 needing care, as yet has but 75 in her colony, at a cost of $4.50 a week. Dr. Wharton Sinkler, of Philadelphia, was elected the next president, and Dr. Spratling, of the Craig Colony, was reëlected secretary.—*New York Medical Journal.*

According to *Science,* Dr. Swale Vincent, lecturer on histology at the University College, Cardiff, and formerly assistant professor of physiology at University College, London, who has already made numerous contributions to the literature of the ductless glands, has been appointed to the research scholarship for the study of the thymus and other ductless glands recently established in England by Mr. J. Francis Mason. Mr. Mason has also made a donation of £200 to the laboratory of the Edinburgh Royal College of Physicians to enable the medical superintendent, Dr. Noel Paton, to carry out combined research on the ductless glands. Professor Ribbert, of Marburg, has been appointed director of the Pathological Institute at Göttingen in succession to Professor Orth, who succeeded the late Professor Virchow as professor of pathology in Berlin.

The Army Medical School was, according to the *New York Medical Journal,* opened in the Army Medical Museum at Washington on November 10 with a class of forty student-officers in attendance. For the current session, the seventh, the faculty is composed of the following officers in the United States Army Medical Corps: Col. Calvin De Witt, assistant surgeon-general, president of the faculty and professor of military medicine; Major Walter Reed, surgeon, professor of clinical microscopy; Major Louis A. La Garde, surgeon, professor of ophthalmology and lecturer on "Duties of Military Officers;" Major W. C. Borden, surgeon and professor of military surgery; Major Walter D. McGraw, surgeon and professor of military hygiene; Capt. Frederick P. Reynolds, assistant surgeon, instructor in first aid hospital corps drill, and field hospital administration; Capt. Carl R. Darnall, assistant surgeon, secretary of the faculty and instructor in sanitary chemistry. In addition to the instructions mentioned, lectures on military law are given by Brig.-Gen. George B. Davis, judge advocate general, and lectures on those tropical diseases with which our troops have been afflicted in the Philippines will be given by First Lieut. Joseph H. Ford, assistant surgeon.

# NEW PUBLICATIONS.

## MANUAL OF SURGERY.

This well known and highly esteemed manual of surgery appears before the teaching and student sections of the medical profession at an opportune moment in a new fifth edition. It combines in one volume many excellent characteristics; it is neither too long nor too short. It discards much of the old-fashioned chatter about inflammation, and replaces the chapter customarily dealing with this subject with one on bacteriology and the principles of antiseptic and aseptic surgery. The field of surgery is traversed in a highly scientific and clinical spirit. The descriptions of surgical procedure are lucid and definite, and the reader is aided in his appreciation of facts and methods by the abundance of illustrations and skiagraphs. The manual may be recommended to student and practitioner as something they need.

A Manual of Surgery for Students and Practitioners. By William Rose, M.B., B.S., and Albert Carlen, M.S., F.R.C.S. Fifth Edition; 1233 pp. New York: William Wood & Co., 1902.

## THE PRACTICAL MEDICINE YEAR-BOOK.

It is with much satisfaction that it can be observed that such a distinct success has been achieved by the enterprise of that truly enterprising city Chicago, in the publication of the Practical Medicine Series. The new volume by Drs. Frank Billings and J. H. Salisbury is an excellent *résumé* of all recent advances in internal medicine. This series of year-books, issued as they are from time to time, furnish an excellent opportunity for the general practitioner to keep abreast of modern progress.

The Practical Medicine Series of Year-books. Comprising Ten Volumes in the Year's Progress. Issued Monthly. Vol. I: General Medicine, by Frank Billings, M.S., M.D., and J. H. Salisbury, M.D. October, 1901. Chicago: The Year-Book Publishers, 1902.

## MEDICAL RECORD VISITING LIST.

This is one of the most popular visiting lists published, having been issued successively for a long period of years. This issue shows a complete revision of the reading matter in the front part of the list. The publishers have maintained the high standard set by them in the past, in regard to the paper, printing, and binding.

The Medical Record Visiting List or Physician's Diary for 1903. New Revised Edition. New York: Wm. Ward & Co., Medical Publishers.

## THE PHYSICIAN'S VISITING LIST.

This little volume will doubtless continue to find favor with physicians, containing as it does so much valuable information in so concise a form. The table of doses has been carefully compiled, and all the newer drugs that have met with recognition have been included.

The Physician's Visiting List for 1903. Philadelphia: P. Blakiston's Son & Co.

# THE PROGRESS OF MEDICAL SCIENCE.

## SURGERY.

### The Surgical Treatment of Epilepsy.

Roswell Park (*American Medicine,* No. 22, 1902) says that epilepsy is the last disease to which surgical measures should be indiscriminately applied. In judiciously selected cases, radical operations of various kinds, suited to the individual needs of each case, have given far more satisfactory results than has non-operative or medical treatment.

Every case must be studied as a problem by itself. The only general laws applying are those regarding the removal of peripheral or local foci of irritation and the destruction of paths of conduction which convey disturbing impulses. In each case we must decide as to the operative method by which we may best meet these indications.

In order to attain the best results patients should be seen early. It would be well to have every epileptic carefully studied by an accomplished surgeon, who should review the case with a view to the possibility of surgical intervention.

Operation, when indicated and undertaken, should be regarded as a first measure to be followed, and often preceded, by others looking to a correction of all faults of diet, of elimination, etc. Long-continued attention to these matters is the price of eventual success.

In those cases characterized by blanching of the face, when the seizures can be warded off or mitigated by the prompt use of amyl nitrite, we may well consider the propriety of an exsection of the cervical sympathetic.

### Report of the Blood Examinations in Ten Cases of Severe Burns of the Skin.

E. A. Locks (*Boston Medical and Surgical Journal,* Oct. 30, 1902) has from examinations of the blood of individuals who have been severely burned drawn the following conclusions: (1) The blood flows sluggishly and is of a peculiar dark, purple appearance. (2) An immediate increase in the number erythrocytes in severe but not fatal cases, of from one million to two millions to the cubic millimeter. (3) A rapidly increasing leu-

cocytosis constantly occurs; in cases ending in recovery often of thirty thousand or forty thousand to the cubic millimeter; in fatal cases usually above fifty thousand to the cubic millimeter. (4) Morphological changes in the erythrocytes are slight. (5) The percentage of neutrophiles is somewhat above the normal, but not so much so as in the ordinary inflammatory leucocytes. (6) A considerable destruction of the leucocytes takes place, especially in the very severe burns. (7) Myelocytes may be present in small numbers in severe cases. (8) There is, as a rule, marked increase in the number of blood plates.

## MEDICINE.

### Infantile Convulsions.

This was the subject of a discussion at the last French Congress of Medicine, when Moussous and D'Espine (*British Medical Journal,* Oct. 4, 1902) drew attention to some important points. One is in reference to the identity of infantile convulsions and epilepsy as originally suggested by Fere—the relatively considerable proportion of epileptics whose seizures began before the age of five years. Berger is quoted as finding twenty per cent of epileptics whose fits began in infancy. According to Gowers, a large number (12.5 per cent) of epileptic cases began in the first three years of life, while Osler gives a still larger proportion, namely, 180 out 480 cases. D'Espine points out conversely that a large number of children who suffer from convulsions subsequently become epileptic; and Coutts is quoted as finding 11 out of 85 cases of children having suffered from convulsions becoming epileptic, 29 cases showing other neuroses, the remaining 45 being unaffected. Dufour has also quoted statistics in support of this hypothesis, and finds that, of 66 cases of infantile convulsions, 15 developed ordinary epilepsy. Bullard and Townsend have ascertained the presence of other nervous phenomena in 9 out of 19 cases of children aged from five to twelve years having had convulsions, the further development being night terrors, insomnia, and enuresis; and in another series of 30 cases due to the same course, 6 were mentally deficient or epileptic. Their conclusion is that all children suffering from infantile convulsions are predisposed to various nervous affections.

H. Gillet found that 3 children out of 23 cases of infantile convulsions became epileptic, and one hysterical; 17 of these 23 cases had a neuropathic family history. On the other hand,

D'Espine quotes from an examination of his own statistics that infantile convulsions are the expression of a temporary neurotic tendency, and should, therefore, be completely separated from cases of true epilepsy, the latter disease being, according to this authority, much less common than infantile convulsions or eclampsia, a disease often proving fatal, but which is at the same time capable of being completely cured without leaving any untoward impression on the nervous system. Moussous holds much the same opinion from a different point of view. If, he says, a large number of epileptics have suffered from infantile convulsions, it must not be forgotten that a great number of persons have also had infantile convulsions without having become epileptic. In favor of this is the undoubted fact that epilepsy is a most inveterate condition, and it seems strange, admitting the identity of the two diseases, that when it begins in childhood—in other words, in a precocious form—it shows the greatest tendency to disappear. Moreover, it is not in cases of epilepsy alone that an inquiry into the past history of the patient brings to light a tendency to infantile convulsions, for, granting that many cases of epilepsy have a past history of convulsion in childhood, the same may be said of patients suffering from chorea, tic, neurasthenia, and want of mental balance. Everything seems to depend upon the hereditary tendencies of the patient.

Moussous insists on the connection existing between strabismus and convulsions. For a long time infantile convulsions have been regarded as a cause of strabismus, especially in the convergent hypermetropic form. This view is not held by some authorities—Cabanes, for instance. It is probable that the immediate cause of brain disturbance resulting in convulsions is in itself sufficient to upset those delicate coördinating movements connected with the visual axes, and thus strabismus becomes itself a manifestation rather than an effect of the seizure; that is to say, convulsions and strabismus being due to a common cause, namely, a neuropathic heredity. Out of 62 cases of strabismus recorded in the Children's Hospital in Bordeaux, Ginestoux ascertained the existence of convulsions in three-fourths. In cases of divergent strabismus convulsions have been less frequently noticed than in the form already mentioned.

The absolute frequency of infantile convulsions has been differently estimated, and from a large number of observations D'Espine makes the somewhat surprising statement that infantile convulsions occur less frequently than is supposed. Excluding symptomatic cases, spasmodic conditions may be divided into

three groups—eclampsia, spasm of the glottis, and tetany. The figures given by D'Espine refer to 208,035 children. Of these, 1274 suffered from ordinary convulsions (eclampsia), giving 0.61 per cent; 693, or 0.33 per cent, suffered from laryngeal spasm; 143, or 0.06 per cent, had tetany.

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### Thermic Fever.

Lewis and Packard (*American Journal of the Medical Sciences,* September, 1902) report observations based upon ninety-two cases of thermic fever treated in the Pennsylvania Hospital, Philadelphia, during the extreme heat of July, 1901, occurring chiefly between 3 and 5 P.M. Males were attacked twice as frequently as females, the average age being thirty-seven, though the extremes of life were not exempt. Only six of the number were negroes, the largest proportion being among natives of the United States. All the cases with a temperature lower than 106° recovered, and all over 111° F. died, the total mortality being 14.4 per cent. Tonic convulsions and retraction of the head were noted in several cases, especially in those whose temperature reached 106° F. or more, while others did not develop convulsions until the temperature had been reduced. Marked cerebral excitement followed reduction of temperature in a few cases, but those patients with high fever were generally unconscious on admission. In five out of six cases examined there was complete absence of knee-jerks persisting for some time. The urine generally contained albumin in the severer cases, sugar being noted in two, though probably in one this was due to associated diabetes. Previous alcoholic history exercised an unfavorable influence upon the severity and prognosis of the cases. The blood was only examined in a few instances, when it was seen to be dark in color, and the absorption band of hemoglobin was found alone, and while the specific gravity and the number of red cells were not constantly increased, the number of leucocytes varied considerably. The toxicity of the serum was not investigated, but other observers have noted its increase, and the theory of autointoxication has been advanced as explanatory of the symptoms.

In the mild cases (100° to 102° F.) rest in a cool ward, application of an ice-cap, and an occasional cool bath with the administration of aromatic spirit of ammonia or alcohol or strychnine, will suffice. In more severe cases (102° to 106° F.), in addition to the above treatment, a cold bath or even rubbing down with ice may be required, while the severest cases should

be treated, if possible, in an open tent covered with a fly constantly kept moist externally, the air internally being kept cool by electric fans. Rubbing with larger pieces of ice was found to be more rapid and beneficial in its action than either cold baths or spraying with cold water. Bleeding as a routine measure is condemned, and is only of benefit in very severe cases irresponsive to other remedies. Intravenous injection of normal saline solution was found to be better than hypodermoclysis, on account of the greater rapidity with which the blood was affected.

Abstracts of some of the cases are given, and the possibility of valuable results attending a further study of the condition of the eye-grounds, specific gravity, and spectroscopy of the blood, with more complete observations upon its toxicity and estimation of leucocytes than was possible in the cases recorded, is pointed out.

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Clinical Notes on Blood-pressure in Diseased Conditions.

At the recent meeting of the Canadian Medical Association, A. E. Orr *(Montreal Medical Journal,* October, 1902) presented a series of notes on blood-pressure obtained with a Gaertner tonometer. Four hundred patients at the Royal Victoria Hospital, Montreal, were experimented on. The normal pressure was found to be 110 to 120. Seventy cases of typhoid fever were recorded in different stages, showing an average blood-pressure of 104.5 millimeters. It was highest, but still subnormal, in the first week. There was only one death, which took place in a man of thirty-five years, when pressure was 105 on the tenth day, 110 on the twenty-first day; then three hemorrhages, and on the twenty-fourth day a fatal hemorrhage. A large proportion of these had cold baths or cold sponging.

Nineteen cases of chronic nephritis were recorded. Of this group the highest was 260; average 208.5. Of acute nephritis there were seven cases; only three of these showed high pressure. Of arteriosclerosis, 27 cases were recorded; highest 110, 16 being 130 and over; 4 from 130 to 145; 3 from 110 to 125; 4 subnormal. The highest was in a man of seventy-two; glycosuria, no albumin.

Valvular diseases of heart, 48 cases, including 11 cases of mitral regurgitation. In mitral stenosis 8 cases were recorded, 6 being normal. Mitral stenosis with mitral regurgitation, 14 cases; eleven had practically normal tension. Aortic insufficiency, 3 cases. Myocarditis, 4 cases, one, a man aged sixty, having pressure of 80. Hypertrophy and dilatation of heart of unknown causation, 2 cases, 120 and 110 respectively. There

were 18 cases with acute lobar pneumonia, with an average for the series of 92.7; only one death. Pleurisy, 16 cases. Neurasthenia, 18 cases, 13 having normal pressure; 3 from 135 to 140; one of 160. In malignant disease, cancer of viscera, there were no high readings. Anemia, 6 cases, all being normal. Addison's disease, 2 cases, both in early stage; both normal. Purpura hemorrhagica, 1 case; normal. Puerperal septicemia, 1 prolonged case, ending in recovery; had extremely low blood count, 930,000; above normal. One gall-bladder case with suppuration, a blood-pressure of only 50 ten days before death. One lead poisoning; 3 of jaundice; 1 of tubercular meningitis; 2 of diabetes; 2 of exophthalmic goitre; 8 of acute articular rheumatism, heart not affected; chronic articular rheumatism, 4 cases, all normal; gonorrheal rheumatism, 8 cases, 6 normal; rheumatoid arthritis, 16 cases, 6 normal; gout, 4 cases.

There was one case of hemiplegia and 14 of tabes dorsalis, 11 normal pressure; cerebral tumor, 8 cases; general paralysis of insane, 1 case; Frederick's ataxia, one with albuminuria, 140; one acute ascending paralysis, 140; 2 cases of tic-douloureux, one 130 during the attack. There was one case of epidemic influenza and 36 miscellaneous cases.

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### Lupus Erythematosus from the Clinical Point of View.

J. H. Segueira and H. Balean present in the *British Medical Journal* of October 25, 1902, an article upon lupus erythematosus from the clinical point of view. The observations contained in this paper were based on 71 cases of lupus erythematosus: 60 of the patients were females and 11 males. In 62 of the 71 cases the disease commenced before the thirty-first year. A history of tuberculosis in the family was found in slightly under fifty per cent. Tuberculosis in the patient was found in the majority of the disseminated cases, but was comparatively rare in the discoid forms. Half of the patients suffering from the disseminated variety had albuminuria. The history of a fatal acute case in which there was parenchymatous nephritis was given. At the necropsy the only tuberculous lesion was a small calcareous nodule at the apex of one lung. The conclusions arrived at by the authors are:

1. That lupus erythematosus is due to a circulating poison or toxin.

2. That in its acute disseminated form it is associated with tuberculosis in the majority of cases, but that in the discoid form this association is much less apparent.

3. That the occurrence of albuminuria is part of the toxic effect in acute cases.

4. That the toxin acts through the vasomotor system, as the areas are so constant.

5. That local irritation and a poor peripheral circulation sometimes determine the site of lesions.

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### Tuberculosis of the Myocardium.

Tuberculosis of the myocardium, according to J. M. Anders (*Journal of the American Medical Association,* Nov. 1, 1902), is more common than has been supposed. At present writing not more than three pathologic varieties are justifiable.

It is practically always secondary to a lesion in some other situation, most commonly in the bronchial or mediastinal glands.

Transmission to the heart occurs most frequently by the lymph stream, less often by the blood current, and more rarely still as the result of extension by continuity.

Myocardial tuberculosis in a considerable proportion of cases is secondary to pericardial tuberculosis, and the latter to disease of the bronchial glands.

The symptomatology is extremely variable and indefinite.

Diagnosis is excessively difficult, but is probably possible with great care and under favorable circumstances. In addition to the suspicious features that may be present, the existence of generalized tuberculosis and pericardial tuberculosis, one or both, are essential to a diagnosis.

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### Succus Entericus and Pancreatic Digestion.

Pozerski (*Thèse de Paris,* 1902) has, from a number of experiments made to ascertain the action of the intestinal juice in favoring the amylolytic action of the pancreatic and salivary secretions, drawn the following conclusions: (1) There exists in the succus entericus a substance which renders active (or aids the action of) the amylose ferment of the pancreatic secretion. (2) This substance has a similar adjuvant action on the amylose of saliva and of aspergillus niger. (3) Maceration of lymphoid glands, especially the mesenteric glands and spleen, and of leucocytes, gives rise to a substance which has similar activity in aiding the amylolytic ferment of the pancreatic juice. (4) This substance has nothing in common with the trypsin of the pancreatic juice. (5) It is not itself a diastatic ferment. (6) The adjuvant action of this substance is probably due to the presence

in it of certain salts and proteid materials whose precise composition, however, has not yet been ascertained. This substance is present in the succus entericus; but as to its exact origin (whether secreted by the mucosa or derived from leucocytes which have passed into the alimentary canal in the processes of digestion) there is still some doubt.

## THERAPEUTICS.

### Suprarenal Extract in Nose and Throat Diseases.

In testing the action of suprarenal extract on the nose and larynx, A. Rosenfeld (*Berl. Klin. Woch.*, June 30, 1902) uses a freshly prepared extract made from ox suprarenal capsules and Parke, Davis & Co.'s adrenalin. When a solution is applied to the mucous membrane of the nose by means of a cotton-wool swab, after half a minute to a minute intense anemia is produced. The mucosa gets the appearance of being quite transparent, and the nasal cavity looks as if it were bared of soft tissues. The effect is much more marked than that produced by cocaine. But Rosenfeld points out that it should not be used as a substitute for cocaine, but as an adjuvant to the same. For diagnostic purposes he states that he knows of no more useful method than painting with a solution of suprarenal extract and cocaine. After such painting one obtains a much better view of the nasal cavity than with old cocainization, and even the middle part of the cavity is brought clearly into view. It is then possible to gauge exactly the amount of swelling of the parts, and to form an exact idea of the condition of the turbinated bones. He finds that when one wishes to operate the field is kept clear from blood after the application of the extract, and even operations on the septum can be performed bloodlessly. If one remembers that the action of the drug is to render the parts anemic, there is no difficulty in preventing hemorrhage later on, and Rosenfeld says that he has not been troubled with this occurrence. The pure therapeutic action is of short duration, but it is of use when one wishes to render the nasal mucous membrane anemic for a time. Rosenfeld is not in a position to decide whether it is of value in the treatment of hay-fever. In the larynx he finds it of great use chiefly for reducing hyperemic swelling of the vocal cords.

As a means of distinguishing between infiltration and hyperemia, Rosenfeld states that the application of the solution makes it easy to decide which is present. The application of the mixture is said to make curetting of the larynx in tuberculosis much

easier. In addition, he remarks on its value when administered internally, and admits that he has not employed as large doses as the Americans advise; this may account for his somewhat disappointing results. In some cases, however, of vasomotor coryza and hay-fever he has obtained good results, but he values the drug most for its local action both as a help in diagnosis and as a means of conducting bloodless operations.—*British Medical Journal.*

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### Rational Dietetic Treatment of Bright's Disease.

W. H. Porter (*Medical Record,* Sept. 27, 1902) says that to analyze thoroughly the results of treatment in Bright's disease one must have a clear conception of the histology and physiological functions of the kidneys.

Its complex pathology must be clearly understood.

All the etiological factors must be given full consideration.

The etiological factors are numerous and very complicated in their action.

Only one, if any, of these can be reached by surgical interference.

Most of the etiological factors can be modified or removed by well directed rational dietetics and therapeutics.

Histologically speaking, Bright's disease can never be cured.

Physiologically speaking, the etiological factors can be modified and often removed, the symptoms held in abeyance, while the renal glands perform their functions normally.

Bright's disease is by nature an oscillatory malady, accompanied by frequent remissions and exacerbations.

Remissions must not be mistaken for cures.

Rational dietetics and therapeutics offer the largest possibility for a complete physiological cure.

A well regulated mixed diet, especially if composed largely of the animal class, when it can be tolerated, yields the best results.

All therapeutics to be rational must be directed not at the pathological lesion *per se,* but toward establishing a more perfect digestion and metabolism, and a decrease in the work imposed upon the renal glands.

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### Rectal Feeding.

P. Deucher (*Lancet,* Nov. 8, 1902) at the recent half-yearly meeting of Swiss practitioners at Olten, spoke on rectal feeding. It should only be used for short periods of time (five or six days) if no other nourishment is allowed, but for longer periods

if subcutaneous or intravenous injections of sodium chloride solution are simultaneously given. It is disadvantageous to feed by the mouth at the same time, as simple enemas (Reinigungsclystiere) have to be given before each introduction of food into the rectum, and the mucous membrane of the bowel becomes irritated and diarrhea often ensues. Eggs are well suited for rectal feeding, and three at a time can be introduced if one gramme of sodium chloride for each egg is added (Huber). This promotes absorption. Albumoses (peptonized food) are absorbed much faster, being predigested, but it must be remembered that 60 grammes (two ounces) of peptones afford only as much nourishment as one and a half eggs. Mixtures of egg and peptone or peptone and sodium chloride are absorbed much more slowly. Milk is not advantageous for rectal feeding as large quantities are necessary, and these act as irritants; decomposition also takes place more rapidly. Wine is scarcely to be recommended owing to its reflex irritative action on the small intestine and stomach. Starch is well absorbed, but far too slowly for practical purposes. Fatty substances must be avoided. The most important carbohydrate is sugar (either grape- or cane-sugar). Schonlein found that nearly ninety per cent of such a solution was absorbed in one hour. It is not advisable to give more than one ounce or one and a half ounces, with ten times the amount of fluid, three times a day. It is always necessary to add opium or to give a suppository of opium. Rectal feeding is not to be recommended in phthisis or diabetes, but can be used with the best results after surgical operations, and especially during the acute stage of gastric ulcer with or without hemorrhage.

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### Eucaine as a Local Anesthetic.

H. M. Gray (*Scottish Medical and Surgical Journal*, August, 1902) says that the usefulness of eucaine as a local anesthetic, although fully recognized in many quarters, is not sufficiently appreciated in general practice. In this contribution the author describes a number of surgical operations which were done during the South African war, where the anesthesia was effectively produced by eucaine. Among these cases were varicose veins, resections of small joints, tenotomies, circumcisions, and the like, and even in more serious operations, such as those for hernia. The usual strength of the solution of eucaine employed was one per cent, which was generally quite sufficient. An important point in the technique is to inject a large amount, about a drachm being necessary in amputating a finger. The writer has never

seen any toxic action produced by the drug such as frequently occurs with cocaine. The anesthesia lasts twenty to thirty minutes. A fine needle should be chosen for the injection, such as Schimmel's patent needle. The patient should always be prevented from watching the operation, and this is conveniently done by laying a light towel or handkerchief over the face.

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### The Serum Treatment of Malignant Pustule.

Lazzaretti (Monograph, published at Siena, 1902; *British Medical Journal,* Dec. 25, 1902) reports twenty-three cases of anthrax treated with Sclavo's serum. All were treated in the clinic of the University of Siena, and the diagnosis was in all cases bacteriologically confirmed. There was only one fatal case. This was in a man aged sixty, a drunkard, who had malaria and a severe syphilitic infection two years before. The signs of the disease did not at once become characteristic, and the administration of the serum was somewhat delayed; both the local and general conditions improved, however, but when convalescence seemed to have begun delirium and fever set in, and the man died. The necropsy showed interstitial nephritis with early cirrhosis, and a hemorrhage into the pedunculus cerebri; the infection was therefore not directly responsible for the fatal result. The other cases all recovered, some being very severe. The course of the disease was cut short, and the disfigurement caused by the pustules was but slight; locally, sublimate dressings were used.

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## RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

### Effect of Climate on Laryngeal Tuberculosis.

Dr. Levy, of Denver, Col. (*Laryngoscope,* vol. xii, No. 10), with a view to throwing some light on this important subject, undertook an analysis of a series of 205 cases, full records of which had been preserved. He began his investigation without any preconceived idea as to what the results might be, though having a general impression that some authors with perhaps a superficial knowledge of the subject had been unduly prejudiced against high altitudes in this affection.

Of the number having both throat and lung lesions, 11 originated in Colorado or allied climates, number originating else-

where, 152; and the number in which lung lesion originated elsewhere, and throat lesion in Colorado, 37.

Of the cases having only throat lesions, one originated in Colorado, and four originated elsewhere.

If it can be shown that throat lesions develop more rapidly in high altitudes than elsewhere, the opinion of some, that these localities are injurious, would be borne out. Dr. Levy's records, however, would seem to controvert that idea, showing that a residence in a high altitude delayed rather than hastened the appearance of the laryngeal involvement, which as a rule shows, either early or late, in fully thirty per cent of all cases of tuberculosis. The author's table shows:

1. That in cases developing both lung and throat lesions in Colorado, the throat lesion manifests itself forty-eight weeks later than in those originating elsewhere.

2. That in cases developing lung lesions elsewhere and throat lesions in Colorado, the throat lesion manifests itself 62.3 weeks later than in those originating elsewhere.

It would therefore seem that, so far as the development of laryngeal tuberculosis is concerned, the effect of high altitudes is to retard it by more than one year.

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### Modified Intubation of the Larynx in Operations of the Mouth and Pharynx.

Recognizing the inconvenience, delay, and anxiety arising in operations upon the palate and in the mouth or pharynx by reason if inspiration by the patient of blood and secretions and the delay of continuing the anesthesia, Dr. Royce (*Brooklyn Medical Journal,* October, 1902) has devised and successfully used a modification of the ordinary laryngeal intubation tubes to eliminate these dangers and inconveniences. The usual larynx intubation tube was modified by the addition of a thin, tightly fitting tube that is passed into the top of it, wedging enough to be withdrawn with difficulty, and having its upper end extending above the top of the intubation tube about three-eighths of an inch; over this a moderately stiff rubber tube is forced; then the tube is grasped in a pair of suitable forceps, just above the head of the intubation tube, and with a gag in the mouth of the patient the intubation tube is passed into the larynx and the free end of the flexible tube is left protruding from the mouth, to be introduced into a cornucopia lightly filled with cotton, on which the anesthetic is dropped. This allows the operator to continue his work uninterrupted by the anesthetist; meantime,

whatever blood may fall in the pharynx may be wiped away or washed out by irrigation without any disturbance of the respiration, as the tube with its flexible extension blocks all entrance to the respiratory tract except through the free end under the control of the anesthetist.

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### Notes on a New System of Treatment in Pulmonary Phthisis.

Dr. D. Turner (*Lancet,* Oct. 18, 1902) describes this new method, which would seem to offer certain therapeutic advantages. The author's system of treatment consists in the external application of cod-liver oil and creosote, together with electricity and massage. The patient, after being hardened by repeated cold spongings for several days, lies on a couch, all clothing being removed. The body is first sponged with a weak solution of sodium bicarbonate, and then the oil solution is thoroughly rubbed in all over the trunk, the process taking a quarter of an hour. The solution employed consists of a mixture of four drachms of creosote or guaiacol, one drachm of oil of citronella, and cod-liver oil to make up four ounces. The author cites four cases treated by this method, in all of which marked improvement took place.—*New York Medical Journal,* Nov. 8, 1902.

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## DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Member of the American Dermatological Association.

### Nevo-carcinoma.

In reporting two more cases of nevo-carcinoma to the American Dermatological Association at its recent annual meeting (*Journal of Cutaneous and Genito-Urinary Diseases,* November, 1902), Dr. A. Ravogli sums up as follows:

It appears that carcinoma more frequently affects those organs which are most exposed to irritation, to abrasions, and consequently to the entrance of infectious germs.

In the cases of carcinoma starting from a nevus, it is clearly seen that continuous irritation and often-repeated abrasions act on the soft and protuberant mass of the nevus. Nevi seated in places where they are protected from injury are not affected by carcinoma, but on the contrary nevi in regions exposed to irritation are often changed into carcinoma. Just lately the writer saw

in his private practice an extended ulceration affecting the whole surface of a vascular nevus of the internal region of the thigh, in a baby four months old. The ulcerative condition was produced by the presence of urine, perspiration, etc., remaining on the tender surface of the nevus.

Carcinoma frequently affects nevi not on account of the cells remaining in the structure of the nevus from the embryonic stage, but on account of the frequent bruises and irritation to which they are exposed, and their soft stroma, which easily react to irritation.

The name of nevo-carcinoma has only the meaning of a carcinoma on a nevus, but does not have any particular interest in reference to the origin of these growths. The pigment is only a coincidence in the nevus, and in consequence it is found in the carcinomatous stroma as such, and it does not produce nor increase the malignancy of the carcinoma.

Carcinoma from the nevus has the same origin from infectious germs as the other carcinomata, and like any other carcinoma is capable of producing general carcinomatous infection with a fatal end.

## GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

### Artificially Induced Abortion and Premature Labor.

Pinard, of Paris (*Lancet*, Nov. 8, 1902), at the recent International Congress of Obstetrics and Gynecology, held at Rome on September 15, presented a sketch giving the history of artificially induced abortion and premature labor, referring to the legal and religious aspects of the question. He pointed out how the action of the obstetrician is hampered by such considerations, and pleaded for his absolute right to decide and to act without reference to the religious scruples, and still less to the wishes of the patient, who is often in a semiconscious state and for the time being incapable of reasoning calmly. He laid down the following general indications for interference:

1. Diseases arising from the pregnant condition—*e.g.*, uterine hemorrhage, dropsy of the amnion, uterine moles, and intoxications of pregnancy (including obstinate vomiting, albuminuria, epileptiform convulsions, toxic neuritis, etc.).

2. Chronic maladies aggravated by the pregnant condition, such as diseases of the circulatory, urinary, or respiratory apparatus. In hemorrhage the indication is precise and urgent when the pulse-rate exceeds 100 per minute. In hydramnios interference is called for when the mother presents one of the following conditions: (1) Edema more or less marked and diffuse, with dyspnea, orthopnea, or cyanosis; and (2) rapid distention of the uterus, severe costoabdominal or diaphragmatic pains, dryness of the skin; cachexia, marked emaciation, diminution of urinary secretion to 500 or 600 grammes in twenty-four hours (acute or febrile hydramnois).

The need for intervention in a pregnancy with eclampsia does not appear, Dr. Pinard thinks, to be sufficiently demonstrated. In regard to chronic diseases aggravated by pregnancy he considers that intervention in cases of cardiac affections is more successful in the first than in the second half of the period of gestation, and that the more rapidly the uterus is evacuated the more efficacious is the operation. In urinary affections it is not as a rule indicated unless the urine diminishes below 1000 to 800 grammes, but in pyonephritis the difficulty of micturition or the general condition of the patient might alone be such as to necessitate interference. In diseases of the respiratory organs it is only in tuberculosis that the question could arise. The duty of the obstetrician in such a case is to treat the tuberculosis and simply to watch the pregnancy.

In conclusion, he gave a table showing his experience in Baudelocque's clinic in regard to the interruption of pregnancy over a period of ten years among 22,703 women; intervention was judged necessary in 20, and was successful in 15.

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### The Prevention of Mammary Abscess.

Very strict attention should, according to H. T. Nelson (*New York Medical Journal,* Nov. 22, 1902), during the entire lactation period, be given to the nipples by watching for fissures and excoriations, which are oftener the starting points of mammary abscess than all other conditions combined. When ulceration first begins in the nipple, the wearing of a leaden cap or shield over it will give good protection. These shields, made of thin sheet lead, can easily be procured at any druggist's, as can also glass shields with rubber nipples attached for the child to nurse through. These latter prevent the irregularity of the child's sucking force, and do away with the twisting and wringing of the nipple by a vigorous infant, which motions tend to keep the ulcer

from healing. Should the trouble fail to yield under these measures, conjoined of course with thorough asepsis of the mother's mammæ and the infant's mouth, thorough cauterization of the active ulcer should be done with a sharpened pencil of sulphate of copper after the parts have been thoroughly cocainized, as the pain of the cauterization is very intense. In some cases when ulceration is very persistent, and abscess is seriously threatened the nursing process may have to be stopped in one or both breasts, and only sufficient milk artificially taken away to keep down tension. At the same time, should it be necessary to interdict suckling the child, a large belladonna plaster should be applied, covering the entire gland save the nipple. If it is found necessary to stop nursing entirely, this plaster should be worn continuously until the lacteal secretion has been entirely suspended. Should the ulcer heal, however, the plaster may be removed and nursing again attempted.

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### The Mechanical or Combined Plastic and Mechanical Treatment of Retrodeviations of the Womb.

M. Rosenwasser (*American Journal of Surgery and Gynecology,* November, 1902) says that a retroverted womb uncomplicated by disease should be replaced and supported by a pessary.

Retroversion complicated by diseased womb or impaired pelvic floor, the womb being movable, requires preliminary plastic operation to restore the normal condition before using a mechanical support.

Suspension operations should be done simultaneously with the plastic, in face of the probability that a pessary can sustain the womb in position.

Retroversion complicated by aggravated prolapsus requires simultaneous plastic and suspension operations to effect a cure.

The treatment of retroversion with fixed womb is that for pelvic inflammation. Whenever the latter requires laparotomy or colpotomy, the retroversion becomes subject to such surgical treatment as may be best suited to the particular case.

Retroversion, simple or complicated, in which mechanical support and plastic operation have failed to cure or to relieve, and in which the symptoms demand relief, constitutes a proper indication for a suspension operation.

# THE MEDICAL AGE

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## ORIGINAL CONTRIBUTIONS.

### CARE OF EYESIGHT OF SCHOOLCHILDREN.*

BY G. C. EGGERS, M.D., CLAYTON, MO.

The faculty of vision or eyesight is without doubt the most valuable and highly prized of all senses. Can you conceive a more unfortunate affliction than the loss of one's sight? A child who is suffered to grow up with a defect of vision, be it from any cause whatever that lessens the acuity of vision, certainly suffers a loss of much that goes to make up the pleasures of existence, and also suffers much in its mental development because of a failure to develop the powers of observation. Many apparently dull pupils are such only because they are the victims of defective eyesight.

Brudenell Carter says: "It is exceptional to meet with a child suffering from defective vision who has not, before the defect was discovered, been repeatedly corrected or chastised for supposed obstinacy or stupidity." This very manifestation of stupidity or slowness of intellect should cause the teacher or parent to suspect some defect of sight and lead to an investigation.

The fact that the eye is "peculiarly an instrument of school education" makes it the more imperative that teachers be not ignorant of its essential construction and physiologic uses. At a meeting of the Illinois State Board of Health, held in Chicago in July, 1900, it was deemed essential that some action be taken by the board to protect the sight of the schoolchildren of that State, and a committee was appointed to consider the matter and report to the board at a later meeting. The attention of the board was directed to this matter by the facts as found by the Child's Study Department of the Board of Education of the city of Chicago. This department found that thirty-two per cent of the boys and thirty-seven per cent of the girls in the schools had defective

*Read before the St. Louis County Teachers' Institute.

vision. The committee in making its report strongly urged that similar examinations be made in every school in the State.

The plan proposed consists of a brief and simple examination of each child's eyes and ears once a year by the school teachers. The board issued a circular outlining the method of examination, as follows:

PLAN OF EXAMINATION.

The necessary material simply consists in the testing charts, which may be inexpensively obtained of dealers in optical supplies, and the warning cards for parents, which will be later described.

The testing charts are made of thick cardboard, on which are printed various letters of different sizes, which should be seen by a normal eye at certain stated distances. For instance, the large top letter should be seen at 200 feet, the line marked 50 at 50 feet, the line marked 20 at 20 feet, etc. The line marked 20 is the one usually employed in testing eyes, therefore during the test the pupil should sit 20 feet from the card.

The examination should be made privately and singly, in a room apart from the general school session.

Children already wearing glasses should be treated with such glasses properly adjusted on the face.

Ascertain if the pupil habitually suffers from inflamed lids or eyes.

Place the testing card on the wall in a good light; do not allow the face of the card to be covered with glass.

The line marked xx (20) should be seen at 20 feet, therefore place the pupil 20 feet from the card.

Each eye should be examined separately.

Hold a card over one eye while the other is being examined. Do not press upon the covered eye, as the pressure might induce an incorrect examination.

Have the pupil begin at the top of the test card and read aloud as far as he can, first with one eye and then with the other.

If the pupil does not habitually suffer from inflamed lids or eyes, or can read a majority of the xx (20) test type with each eye, and does not, upon inquiry, complain of habitually tired, painful eyes and headache after study, his eyes may be considered satisfactory. But if he habitually suffers from inflamed lids or eyes, or cannot read a majority of the xx (20) test type with both eyes, or habitually complains of tired or painful eyes or headache after study, a card of information should be sent to the parent or guardian.

FACTS TO BE ASCERTAINED.

1. Does the pupil habitually suffer from inflamed lids or eyes?

2. Does the pupil fail to read a majority of the letters in the number xx (20) line of the Snellen's Test Types, with either eye?

3. Do the eyes and head habitually grow weary and painful after study?

4. Is the pupil probably "cross-eyed?"

If an affirmative answer is found to any of these questions, the pupil should be given a card or letter of warning to be handed to the parent, which should read something like this:

DEAR SIR:

After due consideration, it is believed that your child has some eye disease, for which your family physician or a physician who makes a specialty of diseases of the eye should be consulted.

It is earnestly requested that this matter be not neglected, as chil-

dren with eye diseases cannot attain the best results in school. Respectfully,

.....

Principal.....School.

It will be observed that these cards are non-obligatory in their nature. They do not require anything of the parent, who is at perfect liberty to take notice of the warning card or not, as he sees fit. They simply warn the parent that a probable eye disease exists, thus placing the responsibility upon the parent.

The "Facts to be Ascertained" have been so worded that an affirmative answer to any of them will indicate that the pupil needs a warning card to take to the parent.

One important matter should be remembered in these tests, viz.: They are not conducted solely for the purpose of detecting ocular conditions requiring the use of glasses. Many seem to have the idea that they simply detect errors of refraction, but such is not the case, as they will, if properly carried out, detect the existence of almost all serious ocular diseases.

The matter is not compulsory, as the parent may do as he thinks best; he may consult any physician he chooses. In this way the duty is thrown upon the shoulders of the parent, where it belongs. If compliance with the advice is not observed the teacher may from time to time urge the matter with tact and delicacy; but nothing should be said to make the parents regard the request as an arbitrary demand.

Drs. Loring and Derby examined the eyes of 2265 New York schoolchildren and reported that nearly one-fourth of the pupils of German ancestors were myopic (short-sighted), one-fifth of all Americans were short-sighted, likewise 15 per cent of the Irish scholars.

In Dorport a few years ago Koppe made an examination of a large kindergarten and found not a single eye adapted for near work.

As the beginning of damaged eyesight is usually laid in the early years of school life, every kindergarten or primary room should be provided with a simple test of vision, and it should be the duty of every teacher to note any defects of vision and have them corrected if possible.

Most occupations commonly recommended by and pictured in many kindergarten books are to be condemned, such as perforating cards, fine sewing, drawing, and nearly all kinds of paper interlacing and folding. These practices, however little indulged in, are certain to damage the eyes of kindergarten children, especially if these be hyperopic or myopic, whilst in the normal eye they may apparently do no harm.

Eye-strain (which follows the excessive use of accommodation), caused by too close work or looking at small objects brought too close to the eye, is manifested by temporary blurring of vision, inflamed lids, neuralgic pains, vomiting, nausea, palpitation of the heart, nervousness with inability to keep quiet after prolonged eye work, peevishness, irritability of temper, and headache. The headache due to eye-strain is usually frontal—sometimes limited to one side; it may be directly associated with the use of the eyes, or be apparently not determined by any particular eye work, and yet in the latter case may be as completely cured by correcting the error of refraction by the use of properly fitting glasses as when more clearly connected with eye work.

Casey Woods, of Chicago, tabulates the characteristics of ocular headaches as follows:

1. Forty per cent of all chronic headaches and 80 per cent of all frontal headaches are partially or wholly of ocular origin.

2. Their site in order of frequency is (*a*) supraorbital, (*b*) deep orbital, (*c*) fronto-occipital, (*d*) temporal, or (*e*) a combination of these.

3. Near work is their chief exciting cause, viz., reading, writing, drawing, painting, fancy work, typesetting, typewriting, sewing, music, etc., etc.

4. Patients suffering from headache often observe that other eye symptoms (see 6 and 8) also result from use of the eyes for near work, especially with artificial illumination.

5. Shopping, theater- and church-going, as well as riding in street-cars and railway trains, often induce headaches.

6. The letters and lines in reading and notes in music run together and get "mixed up."

7. The patients with ocular headache often complain of excessive lacrimation, photophobia, foreign-body sensations, specks floating before the eyes, itching and burning of lids, redness of eyes, etc., etc.

8. The signs of eye-strain above mentioned may be present and the headache be of ocular origin, although the vision is normal and there is no manifest astigmatism. The patient in such a case overcomes his hyperopia or astigmatism, or both, by continuous muscular effort.

9. About 10 per cent of all ocular headaches are incurable.

Children frequently return from school complaining of headache, and upon inquiry we learn that they can with difficulty see the work upon the blackboards, and even then only indistinctly.

Whilst a far-sighted child can see small objects near at hand, he does so always with some effort; but if he is a healthy child

with good eye muscles, and has not too much hyperopia or astigmatism, he can by means of his power of accommodation do near work fairly well for a time, but eventually will suffer with a train of symptoms already enumerated, and is forced to the use of glasses to relieve his eye of the constant strain.

Glasses should not be worn simply for the purpose of improving vision, but for the more important reasons of curing diseases of the eye and preventing the manifold reflex disturbances and damage to the nervous system.

There is a class of eye patients who have as a rule good distant vision, often 20/20 +, whom it is difficult or impossible to convince of the necessity of wearing glasses, because they fail to comprehend that whilst they have excellent distant vision, for close work the ciliary muscle and extra-ocular muscles are put to excessive work, and eye-strain with its train of symptoms follows.

Oaks says: "In the case of the near-sighted as well as the far-sighted eye the amplitude of accommodation or the power of accommodation is materially interfered with, hence the discomfort or distress consequent upon the prolonged use of the eyes. The recognition of this fact is all-important and should be made the subject of investigation by a competent oculist, who should adjust glasses to correct the so-called error of refraction, be it myopia, hyperopia, or astigmatism, and thus enable the child to compete with his fellow pupils and save the eye from further deterioration."

Robust and active children who are far-sighted are less likely to be afflicted with the symptoms which usually accompany eye-strain, because their tastes lead them into the air rather than to books; whereas the myope or near-sighted child has but little curiosity to explore the world which he sees but dimly—he is disqualified from taking part in games of cricket, tennis, foot-ball, etc., and naturally resorts to books for his pleasure and recreation, with the result that his eyes are constantly on the strain unless he wears glasses of sufficient dioptric strength to overcome the defect.

The constant strain to which the hyperopic eye is subjected is the principal cause of convergent strabismus or squint. This kind of cross-eye begins usually in children, and is often referred to an attack of measles, scarlet fever, whooping-cough, or some other of the diseases of childhood, whereas the true cause is a defect of vision; the hyperopic eye in its endeavor to focus rays upon the retina finally succumbs to the muscular effort, and cross-eyes result.

## BRIEFS ON GENITO-URINARY SURGERY—OVERENTHUSIASM AND "FAKE" SPECIALISM IN THE DIAGNOSIS AND TREATMENT OF GENITO-URINARY DISEASE.

BY G. FRANK LYDSTON, M.D., CHICAGO, ILL.,

Professor of the Surgical Diseases of the Genito-urinary Organs and Syphilology, in the Medical Department, Illinois State University; Surgeon to Saint Mary's Hospital.

Specialism in diseases of the genito-urinary tract, like specialism elsewhere, has developed a tendency toward ponderous methods in diagnosis, and overtreatment. So marked is the trend in this direction, and so much advantage has been taken of it by the "mushroom" specialist, that it is becoming somewhat difficult to hold the confidence of either the layman or the general practitioner without doing something awe-inspiring in diagnosis and treatment. The "fake" specialist uses complicated methods and apparatus in the management of the simplest conditions, often with disastrous results. If a stricture be suspected, a complex localizer or explorer must be used; if stricture be detected and a posterior urethritis producing vesical symptoms exists, the deep urethroscope or cystoscope must be used, often "without rhyme or reason."

Both the patient and his usual medical adviser are duly impressed by the display of unusual technique (?) and machinery, but, unfortunately, the psychic impression is not all the patient obtains from the exploration. His condition is often made worse. The object of this article is not to decry modern scientific methods —indeed, I feel that I am hardly likely to be accused of doing so —but to protest against the routine employment of methods which, while well enough in proper hands and under appropriate indications, are ill-advised and unnecessary in most cases.

The bladder has suffered fearfully from modern so-called "specialism"—a specialism largely composed of machinery and singularly devoid of both scientific spirit and common sense. Symptoms of simple urethral or prostatic disease, the diagnosis of which is easily made, are considered by some "specialists by graduation" as an indication for the cystoscope. This instrument, backed by a powerful imagination, soon detects some serious, localized vesical lesion. Once discovered (?) the doom of that particular bladder is sealed. The treatment instituted soon verifies the diagnosis of bladder disease. I am often edified in cases of stone and prostatic disease by the reckless manner in which the cystoscope is used. The case perhaps is readily diagnosed by

simple means. A prolonged cystoscopic examination is not always comfortable, so an anesthetic is given, endangering the patient's life. The recklessness with which anesthetics are given for diagnostic purposes in genito-urinary disease is horrifying. The patient unquestionably requires an operation in some cases; his chief danger is from anesthetics—why double the risk by preliminary diagnostic anesthesia? The operation and the refinements of diagnosis can be done simultaneously. Gratifying one's diagnostic curiosity by endangering the patient's life through procedures which are not only unnecessary, but of no possible benefit, is specialism run mad. If there is any part of the human body in which all unnecessary manipulations should be avoided, it is the genito-urinary tract. Some of the "sure" diagnoses of the mushroom specialist are very amusing, and bring discredit upon one of our most valuable diagnostic resources—the cystoscope. The points that I would make may be best brought out by the relation of a few cases.

*Case 1.*—A man of thirty, with a chronic urethral discharge and the usual history of repeated gonorrheas, developed frequency of micturition. He consulted a specialist, and was promptly cystoscoped. A vesical ulcer—gonorrheal—was discovered. And then the patient's troubles began in earnest. His bladder was instilled, irrigated, and topically treated, until he was thoroughly convinced of the potency of modern specialism. At the time he consulted me his discharge had stopped, but his vesical symptoms were worse than ever. The urine was characteristic of posterior urethritis, and in addition contained a large number of flaky particles which proved microscopically to be bladder epithelium and mucus. A large-calibered stricture was found at the bulbomembranous junction, with a granular urethritis localized just anterior and posterior to it. The bladder was normal save for epithelial abrasions plainly revealed by the cystoscope, and evidently due to the radical treatment it had received. The prostate was somewhat enlarged and tender. The cessation of local treatment with balsams internally caused the urine to clear up within two weeks. Appropriate treatment of the stricture relieved the patient completely. The mistake in this case was in overlooking the urethral disease which was producing bladder symptoms, passing by it altogether, and treating the bladder for disease which did not exist.

*Case 2.*—A man of forty years of age, a typical "neuropath," had suffered for some time with an imaginary gonorrhea. He was married, and his malady was of the conscience, not of the urethra. A pain in his urethra and frequent micturition were

the symptoms for which he sought relief. Examination showed no lesion save the same condition of the bladder epithelium as in Case 1, due to a similar cause—radical treatment for non-existent disease. No treatment was given save full doses of asafetida, valerian, and bromides. The urine was clear within a week, and remained so. The vesical symptoms and urethral pain disappeared shortly, and the patient remained well so long as the novelty of the new doctor lasted. He then relapsed and sought pastures new, as was to have been expected in such a case.

*Case 3.*—A man forty-two years of age had been a sufferer from frequent and painful micturition for several years. There was a plain history of two attacks of nephritic colic. He had had gonorrhea, and been vigorously treated for what was supposed to be its results. He had suffered many things of many physicians. Two months before I saw him he had been put in hospital, and his bladder opened suprapubically. A cystoscopic exploration was made through the wound, but the specialist evidently forgot to put his finger in the bladder, as nothing was found. On examination I found two large stones. These I removed suprapubically. They were very hard and composed mainly of urates with phosphatic laminæ. Recovery was complete.

*Case 4.*—A man fifty years of age had complained of vesical irritation and hemorrhage for some months. He had been variously treated and the victim of numerous diagnoses. A cystoscopic examination was finally made, and a "large vesical papilloma" found. The specialist exhibited this to numerous friends via the cystoscope. This case finally fell into my hands, and I was unable to confirm the diagnosis. I found a severe chronic cystitis and a small calculus. Suprapubic cystotomy and drainage were finally necessary. No tumor whatever was found. This case recalls one of a similar nature which had been exhibited as "vesical papilloma" at various medical societies. A professional friend of mine operated for stone and found no tumor whatever.

*Case 5.*—I was called by a professional friend to see a gentleman fifty years of age, who was suffering from retention of urine. Frequent catheterization was necessary, and the urine was quite bloody. There was more or less catheter fever. The usual history of prostatic enlargement was elicited. Examination showed the organ to be quite large, soft, and very tender. Cystoscopy was requested, but I declined to perform it, for reasons which should have been sufficiently obvious. I suggested temporizing for a time with the usual treatment to relieve irrita-

tion and promote urinary asepsis; this failing, to perform suprapubic section and palliative drainage, the prostate to be attacked subsequently. Being dissatisfied, the family and physician sent for two gentlemen, who advised a machine diagnosis. The cystoscope was used, with great pain to the patient. Nothing was added to the diagnosis, but much to the pathology of the case. When I last heard from it infection of both kidneys had supervened, and death was imminent. I do not hesitate to say that combined cystoscopic traumatism and catheter infection were responsible for this patient's disaster.

The inferences to be drawn from the foregoing cases are these:

1. That unnecessary manipulations and explorations of the genito-urinary organs are dangerous.

2. That the long way around to diagnoses should be avoided when the short cut by the common-sense road is sufficient.

3. That preliminary "accurate" diagnostic explorations, especially under anesthesia, should be avoided where practicable, and operations which have been proven necessary at once proceeded with.

I wish to say in passing that I have seen a number of cases in which a fatal result followed a radical operation upon the genito-urinary organs, in which I felt that the double exposure to anesthesia in the preliminary diagnosis and during the operation, rather than the latter *per se,* was responsible for the death of the patient.

100 State Street.

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## OBSERVATIONS ON THE TREATMENT OF MALARIA.

BY VIRGINIUS W. GAYLE, M.D.,

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The manifestations of malaria are commonly characterized by paroxysms of an intermittent type, such as quotidian, tertian, or quartan, possibly double types of the above. Other varieties are the remittent form and pernicious malarial fever, which rapidly prove fatal notwithstanding the treatment, and a cachexia associated with spanemia and enlarged spleen—"ague cake." It has been proved beyond peradventure that the mosquito is the method of communication in man. The Anopheles quadrimaculatus is the malarial-bearing insect, and as this variety is not

a "high-flyer" dwellers in higher localities or the second story of buildings may and do escape. The experiments in the Campagna prove the correctness of this theory. The specific parasite belongs to the protozoa and to a group called hematozoa. It has a variety of forms, hyaline bodies (unpigmented), ameboid bodies (pigmented) which may increase in size, segmenting bodies which divide into spheres, crescents, and flagellate organisms. The ameboid bodies in the red blood-corpuscles are called by Celli and Marchifava "plasmodium malariæ." Corresponding to the paroxysm of the disease there is a process of segmentation going on.

In all cases of malaria some form of Laveran's protozoön is present. The large forms of the parasite are the exciting causes of the typical intermittent fever; it may be that the crescents produce the remittent variety. They are constantly present in malarial spanemia. They destroy the red blood-corpuscles, the hemoglobin being transformed. They disappear when the salts of quinine are administered. The parasites produce toxins; therefore a toxemia results, but the cases are rarely fatal unless of the pernicious variety. Of course, the spanemia is the result of the changes in the red blood-corpuscles—their partial destruction, if you please. Chronic paludism will give rise to this condition, and may produce hemorrhage, blackwater fever, etc.

After the subsidence of an acute attack there is often a condition of impaired health, depending on the organ or organs affected. There may be disturbances of the intestinal tract, liver, and spleen, general malaise, jaundice, constipation or diarrhea, headache, and neuralgia, simulating sometimes an ambulant typhoid or a mild dengue. Mountain fever, which is common in certain localities, is not of malarial origin. Mixed infection may be a possibility in certain cases of malarial contamination. Why may not the plasmodium malariæ and the bacillus of Eberth be present in the same subject? Have they not been found? Is the Widal test always reliable? Is the diazo-reaction to be depended upon? Will quinine always cure the patient? However, there is nothing better. In malarial regions nearly all diseases have a stratum of malaria underlying them—that is, malaria is a concomitant—and quinine is necessary to produce desired results. This is true, in the localities mentioned, of enteric fever, la grippe, etc. The salts of quinine have a toxic action on protoplasm; they inhibit fermentation and destroy the organisms. The specific action seems to take place during segmentation of the organisms, when they are breaking into spores. On the other hand, many cases do not yield to the action of quinine; besides, quite a num-

ber of patients have an idiosyncrasy in this direction. It may produce erythema, photophobia, tinnitus aurium, deafness, and pronounced nervous phenomena.

The salicylic acid ester of quinine, known as saloquinine, has no such action. It is tasteless, does not produce nervous disturbances, and is not toxic. Mental depression, ringing in the ears, irritating effect on the digestive or urinary organs, are conspicuous by their absence. It is analgesic, antipyretic, beneficial in "brow ague," neuralgia, sometimes in sciatica, and is beyond question a desirable remedy. Its action as a germicide is greater than quinine; perhaps on account of its salicylic acid constituent. Pain in the region of the spleen is markedly relieved by this remedy, provided the pain is of malarial origin. A report of several cases in which saloquinine was successfully used may not be amiss. It is a perfect succedaneum for quinine, and may be given whenever the latter is indicated. Patients need not be selected on account of idiosyncrasy, as no bad effects follow its use. It is the remedy to use in malarial hematuria. It may be given to pregnant women, because it has no oxytocic effect. In several cases of neuralgia of malarial origin, and in two cases of la grippe, saloquinine was administered with marked benefit.

*Case 1.*—Quotidian type of malarial fever. Patient, female, aged twenty-five years. After a mosquito bite in the city park eight days previously she had the first rigor. This was preceded by a feeling of languor or malaise two days before the onset. Temperature 104°; intense cephalalgia, anorexia, furred tongue; no gurgling or tenderness in the right iliac fossa. Patient very nervous and hebetude marked. The cold stage lasted a half-hour, the hot stage two or three hours; great exhaustion followed the sweating stage. Chill every morning at 9 to 10 o'clock. She had five distinct chills. Treatment: Mild chloride of mercury, one-fourth grain, with one grain bicarbonate of soda, every hour, for six doses; then a saline purge, after which 15 grains of saloquinine, three times daily, was given. The diet was regulated, and one or two doses of acetanilid and caffeine administered for the headache. Cured.

*Case 2.*—Young man, aged twenty-two, contracted malaria by sleeping in an open boat on a river in Arkansas, being nearly devoured by mosquitoes. Ten days later he developed a chill; temperature 105° first day; excessive pain in head and back; furred tongue; anorexia; marked diaphoresis; pain in both the splenic and hepatic regions. Treatment as in Case 1: mercurial and saline; saloquinine in 15-grain doses, three times daily. The fever was of the tertian variety, but there was no pronounced

rigor after the first one, and the temperature never exceeded 102° after the first day. Cured.

*Case 3.*—Young woman, aged twenty-seven years. Malarial fever of quotidian type; pronounced chill; temperature 103°; had two chills before sending for me. Typical case. Treatment: mercurial purge and quinine ten grains night and morning. Seeming recovery after a few days, but on the fourteenth day there was a recurrence. Quinine was again administered, but on the twenty-eighth day she had another attack. Saloquinine was then given in doses of 15 grains night and morning for a week, and she has since been rid of her trouble.

*Case 4.*—Man, aged thirty-five years, had intermittent fever in Texas two years ago; every spring and fall he has had every other day a feeling of languor and weakness, with supraorbital neuralgia. He has taken quinine, Warburg's tincture, and arsenic, with no cessation of the trouble, while saloquinine, 15 grains night and morning, afforded complete relief.

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The Chamber of Mines of Johannesburg, South Africa, has, according to the *Medical Record,* offered three prizes of the value of $2500, $1250, and $500 respectively for the three most practical suggestions looking to the prevention of miners' phthisis. The committee of award will comprise two members of the Transvaal Medical Society, two members of the Mine Managers' Association of the Witwatersrand, two members of the Mechanical Engineers' Association of the Witwatersrand, three consulting mining engineers to be chosen by the Chamber of Mines, and two practical rock-drillers to be selected by the Mine Managers' Association.

The Netherlands Medical Association has, says the *Journal of the American Medical Association,* completed its fifty-second year of existence exclusively occupied with scientific questions. Its journal has always restricted its contents to strictly scientific communications. The younger members hope to see it transformed to take cognizance of the material interests of the profession, and devote a portion of its space to the questions of organization for material benefits. A letter from Amsterdam in the *Wiener Klin. Rundschau* of November 2, 1902, describes these conditions and states that energetic social-political measures are required to stem the downward trend of the economic interests of the profession. A special meeting has been called to discuss these questions.

# THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich.

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## EDITORIAL ARTICLES.

### ANIMAL HYGIENE.

The cause of antivivisection, if there be one, suffers much from the untruthfulness of its advocates. A triumph of misstatement has recently been achieved in a pamphlet entitled "What Better Than Serum." It is written seriously, and while it is not intended to take rank as comic literature, it does so from sheer incongruity. The aim of this article is not only to expose the uselessness of all serum therapy and vaccination, but also to indulge in some other generalizations that outrival the poets in imaginative flights. One of these aims is to prove that wild animals live physiological lives, and so efficiently maintain the ratio between repair and waste that they are never sick. The article quotes Seton Thompson's remark: "He who will explain the house sparrow's exemption from bacteriological infection, the white bear's freedom from troubles that we attribute to uric acid in the blood, or the buffalo's and flamingo's immunity from the deadliest malaria, is on the way to conferring like immunity in man." Then the writer goes on to say: "Is it not that disease-breeding conditions are non-existing in the animal's system, owing to equalized waste and repair?—their food (scant provision to satisfy keenest hunger) obtained only after long search and activity. Is not this the animal's physical salvation? Wild animals, we learn, die from old age or sudden death only. Whereas man, so irresistibly tempted with his luxurious board, given over to sedentary habit, sows daily the seeds of disorder, and the system inactive becomes a fit rendezvous for all diseases which need imperfection to feed on."

There is only one objection to all this—it is not true. Whether the buffalo be free from malaria or no, and not being entirely familiar with the domestic habits and eccentricities of the flamingo, it may still be asserted that birds suffer keenly from ma-

marial infection. As is well known the mosquito theory of malarial transmission has been confirmed by observations on hematozoic infection in birds. The statement then that wild animals die from old age or sudden death must be taken *cum grano*. As a matter of fact animals may die of anything, from malignant tumor to heart disease. Tuberculosis is widely prevalent among them. Anthrax is a deadly and rapid cause of death. Influenza is nearly always present among them, and Mr. George Fleming, in his interesting work on animal plagues, enumerates eighty-six epidemics affecting wild quadrupeds and birds, and twenty-seven affecting fishes. Only a supremely ignorant individual could make such a statement as this, that wild animals die "from old age or sudden death only."

There is, of course, much doubt as to how some animals die. In the arctic regions, where life during the short summer is numbered by millions, and where there is a greater number of birds and large and small animals gathered together than in any other part of the globe, the remains of dead animals are said never to be found, notwithstanding the severity of the winter which is always at their heels. How these animals die is a mystery; nevertheless they do die.

Man might doubtless derive many useful principles of right living from the jungle, but before we pattern our hygienic existence after animals it would certainly be well that these animals purge their communities of those objectionable diseases from which they manifestly suffer, and which they convey to us—glanders, hydrated disease, trichinosis, tapeworm, and probably tuberculosis find their ways from them to us. By conforming to the habits of wild animals man might perhaps achieve more admirable methods of life, though it is unlikely he would become less of an antivivisectionist by doing so, as the ordinary table manners of the lion and the tiger leave something to be desired in that way. He might, however, add something to sanitary science by studying the sepulchral systems of ants and fishes, and might often find a safe return to sane thinking by relying more implicitly upon the data furnished by physiological instincts.

## EDITORIAL NOTES.

### Experiments with Food Adulterants.

Dr. H. W. Wiley, chief of the division of chemistry in the Department of Agriculture, is at present carrying on what will doubtless prove a very interesting series of experiments. He has selected twelve intelligent individuals, as nearly normal as pos-

sible in physique, and placed them in a boarding-house, on whom he will experiment as to the effects of various preservatives and coloring materials used with common articles of diet. The men who have voluntarily submitted themselves have been pledged to eat all that is set before them and to consume nothing outside. They are not informed of what, if any, adulterants they are consuming; they will be weighed daily, and both their ingesta and excreta will be carefully analyzed and estimated. Professor Wiley hopes to arrive at an exact knowledge regarding the effects of the chemicals used upon the system.

The experiments will continue as long as Dr. Wiley sees fit to continue them. While doubtless much that will prove valuable will be the result of this work, the question of adulterants in foods will still be far from settled, as there will still exist many conflicting opinions in regard to the harmfulness or harmlessness of adulterants in food.

## The Late Major Walter Reed.

By the death of Major Walter Reed, U. S. A., the profession in this country has lost a brilliant and able man. The value of Major Reed's services to mankind can only be estimated as time goes on. His demonstration of the transmission of yellow fever by mosquitoes will rank as one of the greatest discoveries in the annals of medicine. His death, while attributed directly to appendicitis, was doubtless induced by the low state of his vitality brought about by his arduous duties in Cuba during and immediately after the Spanish-American War. Dr. Reed was another example of a hero whose achievements are passed lightly by by an unappreciative government, for had his efforts been directed toward destroying rather than saving human life he would doubtless have received the thanks of Congress and been made a brigadier-general.

## Mechanical Protection Against Malaria.

Of late some very interesting experiments have been carried on by the Japanese military authorities in Formosa, in mechanically protecting the troops stationed there from the bites of mosquitoes. For over five months a battalion of soldiers was protected, and not a single case of malarial fever occurred. In another battalion at the same time and place there were developed two hundred and fifty cases. From these experiments it is shown very clearly the rôle played by mosquitoes in the dissemination of malarial fever, and how a little trouble in giving the needed protection will render large bodies of men safe in notoriously unhealthy districts.

# ITEMS AND NOTES.

THE Copley medal has been awarded this year to Lord Lister.

SMALLPOX is prevalent in Rochester, Cleveland, and Detroit.

ST. PETERSBURG will shortly establish a special sanatorium for women alcoholics.

DURING his visit to Baltimore Dr. Adolph Lorenz was the guest of the Johns Hopkins Hospital.

SURGEON-GENERAL O'RIELLY reports a decided decrease of cholera among the troops in the Philippines.

TWO ROOMS at the Cincinnati City Hospital are to be fitted up especially for the treatment of acute poisoning cases.

THE Nobel prize for natural science and chemistry has been awarded to Dr. Emil Fisher, of the University of Berlin.

THE Congress of American Physicians and Surgeons will hold its sixth meeting at Washington, May 13 and 14, 1903.

THERE were 98,579 fatal cases among the 127,340 cases of bubonic plague in India between April 26 and October 4, 1902.

THE thirty-second annual meeting of the American Association for the Cure of Inebriety was held in Boston, Mass., December 18.

ACCORDING to the annual report of the Indiana State Board of Medical Examination and Registration there are 5880 physicians in that State.

IN Germany it is claimed that seventy per cent of male and sixty-eight per cent of female cancer patients suffer from cancer of the digestive organs.

ON account of the International Congress at Madrid the German Congress of Internal Medicine, usually held each April, will not convene again until 1904.

ON November 8 there was unveiled at Berlin the bust of Karl Westphal, who for many years was chief of the insane and neurological service at the Charité, Berlin.

Surgeon H. R. Carter, U. S. P. H. M. H. service, has been detailed as representative to the coming Sanitary Conference which will shortly be held at Cairo, Egypt.

By the will of the late Mathews Gottfried, of Chicago, $2000 is bequeathed to the Christian Brothers Hospital, $3500 to the Mercy Hospital, and $2000 to the German Hospital.

According to a press despatch smallpox is epidemic on the island of Turni in the Aegean Sea near Samos. More than 2000 out of a total population of 2500 have died of the disease.

The Philadelphia Bureau of Charities has asked the Finance Committee of that city for $2,500,000 to buy sites and erect a building for an almshouse, hospital for insane poor, and municipal hospital.

The International Sanitary Conference of the American Republics was in session in Washington the first week in December. The governments of Mexico, Cuba, Chile, Costa Rica, Salvador, Honduras, and the United States were represented.

The title of "doctor" was invented in the twelfth century, and conferred for the first time upon Inerius of the University of Bologna. The first "doctor of medicine" was Gulielmo Gordenio, who received his degree from the college of Aosti, in Italy, in 1220.—*Exchange.*

The thirtieth annual meeting of the American Public Health Association was held at New Orleans, December 8 to 12. Among the subjects discussed were the pollution of public water-supplies, the disposal of refuse material, animal diseases and animal foods, cars, steamship and steamboat sanitation, the etiology of yellow fever, and the cause, prevention, incubation, and duration of infectious diseases.

It has been announced that all physicians now practicing medicine in the Hawaiian Islands, says the *Philadelphia Medical Journal,* will have to take examinations to secure new licenses, on the recommendation of the board of medical examiners recently appointed. The Japanese physicians have protested against passing new examinations. There are in all thirty-one physicians practicing in Hawaii.

The Christian scientists of White Plains, New York, who were recently indicted for manslaughter, have raised some inter-

esting legal points in their defense. The chief contentions of the defense are that under the Constitution the members of the Christian scientists church have a right to liberty of thought and the use of their faculties, that there is no law which compels medical attendance, and there is no law compelling a parent to give his or her child drugs.

A MAN was walking along the Boulevard Saint-Michael, Paris, one day recently, and stopped to light a cigarette. Suddenly his nose burst into flames, which spread to his beard. A crowd assembled, while the unfortunate man danced with pain until a policeman took him to a pharmacist's shop, where the burns were treated. An examination of the nose showed that it was celluloid, the unscrupulous dealer who sold it having foisted it on his client instead of the horn nose which had been prescribed.—*Exchange.*

THE regions in Germany in which cancer was found to be most prevalent according to the recent collective inquiry, says the *Journal of the American Medical Association,* are being thoroughly investigated by the central committee. Additional circulars of inquiry have been sent to the physicians practicing there, and physicians are to be sent from the central office to study the conditions on the spot. Von Leyden, Kirchner, and Wutzdorf are at the head of the cancer research committee, and are striving to make it the nucleus for an international committee for the centralization of data on the subject of malignant neoplasms.

THE American committee of the Fourteenth International Congress of Medicine, which will be held next year at Madrid, announces the following list of sections has been authorized: (1) Anatomy (anthropology, comparative anatomy, embryology, descriptive anatomy, normal histology, and teratology); (2) physiology, physics, and physiological chemistry; (3) pathology, pathological anatomy, and bacteriology; (4) therapeutics and pharmacy; (5) internal pathology; (6) nervous diseases, mental diseases, and criminal anthropology; (7) pediatrics; (8) dermatology and syphilis; (9) general surgery; (10) ophthalmology; (11) otology, rhinology, and laryngology; (12) odontology and stomatology; (13) obstetrics and gynecology; (14) military and naval medicine and hygiene; (15) hygiene, epidemiology, and technical sanitary science; (16) legal medicine and toxicology.

# NEW PUBLICATIONS.

## THE MATTISON METHOD IN MORPHINISM.

The author of this monograph, Dr. J. B. Mattison, has spent thirty years in the study and treatment of the morphine disease. He has embodied in his essay all that experience has taught him in that time. A strong plea is made for the method of gradual reduction of the daily dose. The author uses as his chief reliance while so doing heroic doses of sodium bromide. To those interested in this subject—and almost every practitioner of medicine is—the perusal of this monograph will be found profitable, as from it may be gleaned many valuable hints as regards the care and treatment of that large and unfortunate class of people addicted to the use of morphine.

The Mattison Method in Morphinism. A Modern and Humane Treatment of the Morphine Disease. By J. B. Mattison, M.D., Medical Director, Brooklyn Home for Narcotic Inebriates. Price $1.00. New York: E. B. Treat & Co.

## REGIONAL MINOR SURGERY.

The aim of Dr. Van Schaick's work has been to provide the general practitioner with a book that will afford him such practical information as he can utilize in his accustomed surgical work. The author has not taken up space with theoretical discussions, each subject being treated in a clear and concise manner, yet no detail of importance is omitted. The book is the outcome of twenty years' experience in hospital and private practice. Many original sketches are to be found throughout the book. The little volume will be found of practical value to the general practitioner.

Regional Minor Surgery. By George Gray Van Schaick, M.D., Attending Surgeon French Hospital, New York., etc., etc. Bound in Cloth; Heavy Book Paper, 226 pages. Profusely Illustrated. Price $1.50. New York: International Journal of Surgery Co.

## LESSONS AND LABORATORY EXERCISES IN BACTERIOLOGY.

This book of laboratory exercises in bacteriology, one of the first of its kind to be offered to the medical student, comprises the practical work in this subject as done in the University of Texas. The arrangement is well adapted to systematic work. Only such explanatory matter as is necessary will be found included. The work as embodied in the exercises may be carried out in eight or nine weeks. While there is nothing original relative to the subject of bacteriology, the mode of presentation of it will recommend the book to teachers and instructors of the subject.

Lessons and Laboratory Exercises in Bacteriology. An Outline of Technical Methods Introductory to the Systematic Study and Identification of Bacteria, Arranged for the Use of Students. By Allen J. Smith, M.D., Professor of Pathology in the University of Texas. Price, $1.50 net. Philadelphia: P. Blakiston's Son & Co., 1902.

## GYNECOLOGY, OBSTETRICS, MENOPAUSE.

The author has divided his book into three parts, viz.: I, The General Practitioner His Own Gynecologist; II, Common Sense in Obstetrics; III, The Change of Life in Woman. The volume is not a theoretical discussion, but the result of years of actual practice. Dr. Leuf's endeavor has been to give plain and practical directions which will be valuable to the physician, and in this he has been successful. As a book of reference in the treatment of female diseases it will be found a valuable addition to the practitioner's working library.

Gynecology, Obstetrics, Menopause. Part I: The General Practitioner His Own Gynecologist. Part II: Common Sense in Obstetrics. Part III: The Change of Life in Woman. Being a Revised and Enlarged Reissue of Three Serial Articles Appearing in *Medical Council.* By A. H. P. Leuf, M.D., Author of "Practical First Principles" and Associate Editor of the *Medical Council.* Philadelphia: *The Medical Council,* 1902.

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## HOW TO SUCCEED IN THE PRACTICE OF MEDICINE.

The author has written his book with the intention of bringing before students and young practitioners of medicine that side of the medical art of which practically nothing is taught in our medical colleges. Dr. Mathews, who has shown by example how to succeed, is therefore well qualified to point out to his younger colleagues the paths which lead to success. The book is written in a captivating style, and the reader will be well repaid if the author's advice is followed.

How to Succeed in the Practice of Medicine. By Jos. M. Mathews, M.D., LL.D., Ex-President of American Medical Association, etc. Louisville, Ky.: John P. Marton & Co.

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## SPECTACLES AND EYEGLASSES.

This third edition of Dr. Phillips's handbook of spectacle-fitting deserves to attract the careful attention of all ophthalmologists; and others who furnish spectacles to their patients will find in this book much that is useful and important in this branch of the work. In this edition new cuts have been added and the whole text revised.

Spectacles and Eyeglasses. Their Forms, Mountings, and Proper Adjustment. By R. J. Phillips, M.D. Third Edition, Revised, with 52 Illustrations. Philadelphia: P. Blakiston's Son & Co., 1902.

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## THE PUBLIC AND THE DOCTOR.

The author of this little booklet has written it in an endeavor to enlighten the laity as to matters medical. His idea is to assist the physician in his many troubles with the ignorant and uninformed. The book contains many valuable hints to practitioners. It is doubtful, however, if the writer's idea of having physicians distribute the book among their clients is feasible.

The Public and the Doctor. By a Regular Physician. Published by Dr. B. E. Hadra, Dallas, Texas.

# THE PROGRESS OF MEDICAL SCIENCE.

## SURGERY.

### The Bloodless Reduction of Congenital Dislocation of the Hips.

The first step in the Lorenz operation consists in, according to the *Medical Press,* the reduction of the head of the dislocated thigh, being brought to the level of the acetabulum. The patient is anesthetized to an extreme degree of muscular relaxation. A band is passed round the perineum and another round the ankle, the latter being attached to a screw-extension apparatus. The extension is evenly exerted, the operator meanwhile grasping the muscles of the thigh, manipulating them while extension is going on. When the head of the femur is brought below Nélaton's line extension is suspended, and is followed by the second step in the operation—the wedging of the reduced head of the thigh bone into the acetabulum. This is the reposition. The chief anatomical barrier is the anterior part of the fibrous capsule, which hugs closely the surface of the acetabulum. Although the head is in the proper position to enter the acetabulum, no amount of force will drive it in. The operator, standing on a stool, seizes the thigh, flexed at right angles to the trunk, with one hand, and with the other grasping the head of the femur, by a system of extension combined with rotation and gradually increased abduction, he opens the way into the potential acetabular pocket. If the reposition is successful, the head of the femur is felt to leap over the posterier edge of the acetabulum, and the surgeon feels at once that reposition has taken place.

The third and final step in the operation has for its object the formation of a solid acetabulum. By manipulation the soft parts of the acetabular cavity may be molded, but the essential changes occur after the patient is allowed to get about. In order to retain the head of the bone in contact with the acetabulum, and thus reawaken the process of growth so long dormant, the thigh is flexed in abduction at the angle of about 90 degrees. The position is maintained by the aid of a plaster-of-Paris bandage carefully applied about the pelvis, and extending to the knee-joint of the affected side. After a few days the child is urged to walk. Every step tends to drive the head of the bone deeper and deeper into the acetabulum. Growth is reawakened, the parts are again

rendered active, and a neoarthrosis is gradually built up. Formerly Lorenz removed the first fixation apparatus at the end of three months, and usually subjected the patient to a second fixation period of three months. He now advocates rather longer fixation periods.

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### Intestinal Obstructions Due to Gall-stones.

Barnard *(Annals of Surgery,* August, 1902) publishes three original cases of intestinal obstruction by gall-stones, with a summary of five more cases treated from 1893 to 1901 in the London Hospital. In some instructive comments on these records the author states that the proportion of cases of gall-stone obstruction, both acute and chronic, from all other causes was, during the eight years of surgical work in the London Hospital, 1 to 45. With regard to the sex and age of the patients, this short list of cases presents some exceptional points. Though, as has been found, gall-stone obstruction occurs in women five times more frequently than in men, and usually in subjects over fifty-five years of age, in Barnard's collected cases only six patients were women. One patient was thirty-seven and another thirty-two, but the average age in the eight cases corresponds very closely to that given by Treves. It is pointed out that in cases of this kind spasm of the intestine at and below the stone is responsible for the main part of the obstruction, and that there is no true strangulation of intestine, as there is simply obstruction to the contents of the small intestine without interference with its blood-supply. The fact that the gut is not paralyzed throughout serves to account for the anomalous symptoms of this form of obstruction. Although the onset of the attack is sudden, pain and collapse are seldom severe until late. Constipation is not as a rule well marked, and the abdomen in most instances is neither tender nor much distended. The prominent symptom is severe, continuous, and profuse vomiting, the ejected fluid being deeply stained by bile. In one of the author's cases the calculus was certainly felt in the region of the ileocæcal valve.

In the diagnosis of gall-stone obstruction no importance, it is held, can be attached to the absence in the clinical history of any record of previous biliary symptoms, as large stones capable of causing intestinal obstruction are usually single, and do not as a rule pass down the duct. Jaundice and true biliary colic will generally be absent. The author's experience confirms the general opinion as to the high mortality after operation for gall-stone obstruction. Of the series of eight cases reported in this paper, seven were operated on, laparotomy having been performed, and

the stone extracted from the intestine, and of these four were fatal, making a mortality of 57.12 per cent.

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### The Importance of a More Radical Operation in Carcinoma Cervicis Uteri.

John A. Sampson *(Johns Hopkins Hospital Bulletin,* December, 1902) says that carcinoma of the cervix may metastasize to small lymph nodes along the blood-vessels, and these nodes may have a diameter of not over 1 to 1.5 millimeters.

As the nodes are very small it may be impossible to feel them, either in the parametrium or along the pelvic vessels. These metastases may be so minute and scattered that they can be discovered only accidentally or by cutting serial sections.

In every case of hysterectomy for carcinoma of the cervix the lymphatics along the pelvic vessels, and also the parametrium, should be removed *en masse* with the uterus, because an enlarged gland is not necessarily an invaded gland, and cancer may be present in very small lymph nodes which cannot be palpated; therefore clinically it is impossible always to diagnose cancerous lymphatics.

Should the ureter be adherent to the parametrium, the lower portion of it should be sacrificed, and all the tissue from cervix to pelvic wall removed, for if the ureter is dissected free, two things are very apt to occur: (1) the disease will probably return; (2) a ureterovaginal fistula will probably occur from injury of the blood-supply of the ureter.

To the above should be added a last suggestion that in every case of hysterectomy for cancer of the cervix the lymphatics should be removed from the pelvic vessels from above downward, together with the uterus, and all the tissues lateral to the cervix from pelvic wall should remain undisturbed, including the lower four centimeters of the ureters; and the ureters should be implanted in the bladder.

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### Surgical Hints.

The December issue of the *International Journal of Surgery* contains the following surgical hints:

When ligatures have to be hastily improvised out of household materials, linen thread certainly takes the first place. Silk sewing-thread comes next, and cotton is a poor last.

In important amputations always loosen the Esmarch bandage very gradually, after having tied the few vessels whose di-

vided ends may easily be found. This prevents a too rapid distention of the vessels with blood, and any further bleeding is more easily controlled.

After suture of the divided ends of a nerve, the surgeon should not predict a prompt restoration of function, nor should he be discouraged because this does not soon take place. Massage, passive motion, and the use of the faradic current will often result favorably after long intervals of time.

The mere fact that it is impossible to thoroughly sterilize some of the cavities of the body is no excuse for not doing as much as possible in this direction before operating upon them. Thorough washing out at any rate removes the excess of bacteria and of secretions favoring their development, and improves the facilities for obtaining good drainage.

If you have to tie a blood-vessel in an emergency, and you have no sterilized sutures, it will always be best to tie one end of the thread short and bring out the other end at one of the angles of the wound, allowing it to remain there. It will promote drainage, may be easily removed when it becomes loosened, and will diminish the chances of abscess formation.

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## The Symptoms of Prostatic Hypertrophy: Their Cause and Their Relief.

E. L. Keyes *(Philadelphia Medical Journal,* Dec. 6, 1902) says that chronic obstruction to urination is the underlying cause of almost all the symptoms attributable to hypertrophy of the prostate gland.

The obstruction may be regarded as an elevation of the internal orifice of the urethra. Yet obstruction may exist without symptoms, and symptoms without obstruction. The immediate cause of all symptoms is congestion, hence to the patient the disease represents only a congestion; while to the surgeon it represents, for the most part, an obstruction, an elevation of the urethral orifice.

The symptoms may often be alleviated by relief of the congestion without regard to the obstruction. Yet such treatment is purely palliative and is not the function of an operation. Radical treatment consists in permanent relief of the obstruction in the floor of the urethra with little regard to congestion. This may be accomplished by cauterization or extirpation of the offending mass through a perineal or a suprapubic incision. The operation to be preferred must attack the obstacle most directly, and remove it most rapidly, while preventing hemorrhage and provid-

ing perfect drainage. Of the operations employed at the present day, the one which most often fulfils these conditions is perineal galvanoprostatotomy.

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### Alcoholic Soap Solution as a Disinfectant for Surgical Instruments.

Dr. Karl Gerson (*Deutsche Med. Wochenschrift,* 1902, No. 43) as a sequel to previous bacteriological work on this subject arrives at the conclusion that this is a reliable method of sterilization. The surgical instruments are tightly wound with absorbent cotton soaked in an alcoholic solution of soap, and thus kept until needed for use. They are thus without further preparation ready for operative purposes. For the envelopment of scissors and forceps the soaped cotton is laid between the blades of the instruments; they are then closed and the cotton wound tightly around them. The cotton covering has a double purpose; it disinfects a previously infected instrument, and what is more, keeps a sterile instrument from external contamination. After the alcohol evaporates the remaining soap agglutinating the fibers of the cotton forms a covering impermeable to air, on removal of which a thin protective film is also found covering the instrument. Instruments so treated are found to remain sterile for weeks. After use the instruments are washed in a soap solution and again prepared as before.

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## MEDICINE.

### Kernig's Sign: Its Frequency of Occurrence, Causation, and Clinical Significance.

Inability to passively extend the knee fully while the thigh is at right angles to the body—*i. e.,* Kernig's sign—was present in sixty per cent of all hospital patients examined by Robt. D. Rudolf (*American Medicine,* Nov. 8, 1902). Kernig's method, according to Rudolf, is to place the patient in a sitting posture and then extend the knee. A more convenient way of applying the same test is that mentioned by Osler, in which the patient is kept recumbent and the thigh is placed at right angles to the body, and then the knee is extended.

A procedure having advantages over both of these methods is first to extend the knee fully, then flex the thigh on the pelvis, and measure the angle at the hip. Thus only one angle requires

to be gauged instead of two, and hyperextension of the hip (showing muscular hypotonus) can be measured.

There is a great proneness in meningitis to increased muscular tonus, which is most apparent in the muscles of the neck and in the hamstrings. This hypertonus, occurring in meningitis, is probably due to cerebellar irritation, and conversely cerebellar irritation is probably the explanation of Kernig's sign in meningitis.

Inability to extend the knee fully with the hip at right angles to the body, or to flex the hip to a right angle while the knee is extended, occurs in many conditions besides meningitis. Among such conditions are cerebellar diseases and diseases of the upper neurons of the motor tracts, acute eye troubles, disuse of the lower limbs for some days, as in recumbency, local conditions in these limbs, as sciatica, arthritis, and contractures, old age, etc.

When Kernig's sign is well developed in a recently healthy individual who has fever and none of the conditions mentioned, then it is a valuable sign of meningitis, and this is probably, at least partially, in the cerebellar region.

For the purposes of greater clinical accuracy it is urged that writers upon this condition express the angle at the knee or hip in degrees, rather than merely mentioning the presence or absence of the sign.

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### The Value of Blood Examination as an Aid to Diagnosis and Prognosis.

J. H. Bryant *(Lancet,* Nov. 22, 1902) draws attention to the increasing interest now taken in this method of clinical examination, and says that in hospital practice at the present time there is the tendency to examine the blood of every patient admitted, as valuable information can be obtained thereby. The value of the four following methods is discussed, viz.: (1) The estimation of the number of red and white blood-corpuscles and the percentage of hemoglobin; (2) an examination of stained blood films; (3) the determination of the agglutinating power of the blood; and (4) the bacteriological examination of the blood. A few points on the normal condition of the blood are next considered, and Bryant then deals with the diagnosis of pernicious anemia from secondary anemia, and describes illustrative cases. He also treats of the diagnosis of chlorosis from other forms of anemia. He then proceeds to discuss the importance of estimating the number of leucocytes per cubic millimeter and of making a differential count of the various kinds of leucocytes present.

He refers particularly to the diagnosis of the presence of pus in cases of appendicitis; to prognosis in cases of pneumonia; and to diagnosis of splenomedullary leukemia, lymphatic leukemia, and Hodgkin's disease.

The diagnostic value of the presence of leucopenia as an aid in distinguishing typhoid fever from intra-abdominal suppuration is dealt with. The presence of eosinophilia in cases of asthma is illustrated by a case which had been diagnosed as aneurism of the aorta, but from which the examination of a blood film showed the presence of fifty-nine per cent of eosinophiles and pointed to asthma as the true cause of the dyspnea. The agglutinating power of the blood serum in certain cases in recent motile cultures of certain bacilli is next considered, with special reference to typhoid fever and Malta fever. The value of the bacteriological examination of the blood in infective endocarditis and other septic diseases is considered.

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### Some Studies of the Periodicity of Inebriety.

T. D. Crothers *(Interstate Medical Journal,* November, 1902) claims that the periodicity of the drink paroxysm is unquestioned evidence pointing to central brain disease. He says that heredity, nutrition, mental exhaustion, and environment are all very common causes or predisposing factors of this condition.

Allied diseases, of which epilepsy is very common, are associated with this, and similar affections are interchangeable.

The drink periodicity follows a uniform line of events, ending about the same way in nearly all cases. Its varieties and symptomatology are practically the same in regularity of origin, development, and termination.

These cases are the most uncertain and dangerous of all drink neurotics, and are the least understood. The prognosis is uncertain and full of dangerous possibilities.

These cases are very susceptible to treatment when the measures are applied scientifically and with full knowledge of the causes. Their inebriety is more positive than that of other inebriates. The drink impulse is often controllable and frequently disappears with treatment. This class requires the most careful medication and study.

Medicolegally, the most important problems are associated with these drink paroxysms. Each case requires special study, and is to be judged from general principles of physiology and psychology.

Such cases of necessity have impaired brain and nerve control

and cannot be measured by the rule of standards of mental health.

These cases should receive careful study and examination. Tabulated facts of sufficient number and accuracy are needed from which to draw accurate conclusions, covering the laws which govern this class of neurotics.

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### The Bearing of Intestinal Bacteria on Nutrition.

Schottelus (*Zeitschrift für Diatet. und Physikal. Therapie,* Bd. vi, Heft 3), on the ground of his interesting biological investigations, wishes to demonstrate that the aid furnished by bacteria is necessary for the maintenance of animal as well as plant life. Many conditions show that the bacteria in the mouth as well as the intestinal tract enjoy an environment which is unobtainable outside the living body, as only a very few can be cultivated artificially. A sort of relationship has been established between the cells of the intestinal mucosa and the bacteria present, rendering it possible for the latter to convey certain nutritive substances to the tissues. These substances may be on only the excrementitious substances of the living bacteria or the microproteid of the bacterial cell itself; in either case the substances are qualitatively so different and quantitatively so important that they demand consideration.

In proof of his statements the author made the experiment of allowing chicks to hatch under sterile precautions and keeping them alive under similar conditions. In twenty-two experiments the result showed that by sterile feeding and surroundings there was no increase in body weight, though the appetite of the animal as well as its excreta were much in evidence, showing that the digestive functions were not impaired. If under these conditions life was prolonged, it was at the expense of the substances present in the animal at birth. In the chicks raised under usual conditions an increase of 117 per cent of the original body weight was found, in marked contrast to a 32 per cent decrease in the sterile-fed chick. The animals usually died in fourteen days, and were kept by the author in sterile nutrient gelatin for a long time without showing signs of bacterial growth.

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### Does Uric Acid Act Antiseptically?

The older physicians were, according to Dr. Bendix (*Zeitschr. f. Klin. Medizin.,* 44 Bd., 1 und 2 Heft), aware that in cases of gout certain diseases, as for instance suppuration of the joints

and tuberculosis, show a different course than in otherwise healthy individuals. So the belief was prevalent in preantiseptic times that the opening of a joint which was affected with gout was less dangerous than ordinarily. According to many authors, gout and tuberculosis are incompatible—*i. e.,* tuberculosis runs a milder course in a gouty individual. These observations made the assumption probable that uric acid has a bactericidal action. Bendix made experiments in regard to this, and found that uric acid has no antiseptic properties. Possibly the conditions are such that gout is a disease affecting such persons who in consequence of their state of nutrition or their state of life are already comparatively immune from tuberculosis. Likewise can the non-appearance of sepsis in gouty suppurations of the joints be probably explained by the more difficult passage of bacteria through the incrusted joint capsule.

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### A New Stain for Diphtheria Bacilli.

W. G. Schauffler (*Medical Record,* Dec. 6, 1902) advocates a new method for the staining of the diphtheria bacillus. The solutions used for making the stain are as follows:

Filtered solution Loeffler's methylene blue.....10.0 Cc.
Filtered solution pyronin (Grubler)..... 1.5 Cc.
(Pyronin, 0.5 gramme; aquæ dest., 10.0 Cc.)
Three-per-cent HCl alcohol..... 0.5 Cc.
(Alcohol absol., 97.0 Cc.; HCl (25-per-cent), 3.0 Cc.)

To prepare specimen: (1) Make cover-glass smear, and fix by passing through a flame three or four times. (2) Drop on to a fixed smear enough solution to cover it and let it stand one minute. (3) Wash thoroughly in running water. Mount in Canada balsam, and examine with 1/12 oil immersion lens. Magnify 1000 times.

The above procedure, says the writer, will show the bodies of the bacilli stained blue, while the poles are a bright ruby red.

The pseudodiphtheria bacilli are much smaller and take on only the blue color. The bacilli of Asiatic cholera and of plague, when stained by this method, show granular bodies in their interior, but these bodies are not metachromatic like those of diphtheria bacilli just described.

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### Early Diagnosis of Icterus.

Hamel (*Deutsche Med. Wochenschrift,* No. 39, 1902) says that as all icteric colorations of the skin and organs are due to the bile entering the blood serum, it is obvious that this fluid

would show the beginning of icterus long before it appears in the skin or the conjunctiva. The intensity and duration of the yellow staining also gives an accurate indicator for the severity and course of the disease. As soon as the bile does not pass into the circulation the serum becomes clear at once, when the skin, due to the pigment deposits, may remain icteric for a long time. For the test, 15 to 20 drops of blood are sufficient. The blood is taken up in a capillary tube and allowed to stand upright for a few hours, and enough serum separates to make the test.

## THERAPEUTICS.

### The Value of Adrenalin as a Stimulant.

M. S. Miles and W. Muhlberg (*Cleveland Medical Journal*, December, 1902) say that adrenalin may be of value in cases of so-called heart failure occurring during anesthesia, etc., especially when the ordinary heart stimulants, such as strychnine, digitalin, and normal saline solution, fail.

That it is more likely to succeed in those cases in which the respiratory centers are not paralyzed, since adrenalin does not appear to be a very powerful respiratory stimulant.

That when used it should be given subcutaneously, and the site of the injection should be slowly but strongly massaged until the adrenalin shows its characteristic effect upon the pulse.

That the dilution with normal saline solution (10 per cent of the 1:1000), by making absorption slower, causes a more prolonged and a less energetic rise of the blood-pressure.

That while their experiments did not permit them to draw any conclusion in regard to bad after-effects, these were not observed in their animals. The danger from secondary hemorrhage as a result of the high pressure must, however, be borne in mind.

Adrenalin subcutaneously is indicated on theoretic grounds for the vasomotor collapse following cocaine or chloroform poisoning, and possibly the shock after operation.

### The Treatment of Gastric Ulcer with Olive Oil.

The excellent results gained by Walko (*Centralblatt für Innere Medicin*, No. 45, 1902) with the use of large doses of olive oil in the treatment of hyperacidity of the stomach induced him to administer the same in gastric ulcers. Of greatest impor-

tance in the treatment of stomach ulcer is the prevention and removal of all irritations so far as possible. As a hyperacidity is usually present, the removal of the same would have a beneficial influence on the healing process of the ulcer. The value of olive oil as a nourishment cannot be estimated too highly, because it is absolutely non-irritating, does not interfere with the motility of the stomach, and is easily assimilated. In extreme cases of gastrectasia bacterial decomposition does not occur, and the bowels become regular. Given in large doses on an empty stomach it acts as a protective. The author finds in his experience that the oil has given satisfactory results, the pains disappearing rapidly. In fresh ulcers Walko gives a tablespoonful three times a day to begin with, and gradually increases the dose to 50 cubic centimeters. After taking the oil the patient should wash the mouth with an agreeable mouth-wash. In cases where the oil caused nausea, it was given as emulsions in doses of 100 to 200 cubic centimeters, and by means of a soft stomach-tube. This treatment was carried on for three to six days until the severe symptoms of the ulcer disappeared, all other nourishment per os being excluded, though rectal feeding may be given at the same time. The author cites seven clinical histories illustrating the above treatment.

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### Chloride of Calcium.

The great hemostatic value of chloride of calcium administered internally has not yet been entirely accepted by practitioners, and yet it can nearly always be depended upon.

Dr. Bertignon (*Medical Press,* Nov. 26, 1902) furnishes a series of cases in which chloride of calcium proved to be an excellent hemostatic. It succeeded where perchloride of iron, antipyrin, ergotin, and hot injections failed. It is indicated in hemorrhages of every kind, and in all maladies presenting hemorrhagic complications. Hematemesis, hematuria, enterorrhagia, are arrested rapidly by CaCl. Bertignon cites the case of a patient suffering from acute general purpura cured by this remedy, where ergotin, perchloride of iron, citric acid, lemonade, etc., were tried without success.

Bertignon says that of all the coagulating solutions known, chloride of calcium was the most easily borne by the stomach. In more than one instance at the hospital had he seen it succeed when prescribed for grave hematemesis.

For intestinal hemorrhage complicating a case of typhoid fever, enemas of a drachm of the salt, and half a drachm given

by the mouth, with a little opium, have yielded very good results. It is especially indicated in hemophilia.

The best formula, according to Dr. Bertignon, is chloride of calcium (crystallized), ʒj; syrup of opium, ʒiij; water, ʒiv. To be taken every twenty-four hours, and renewed as long as the hemorrhage lasts.

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### The Treatment of Cancer by Phototherapy.

Dawson Turner (*Medical Press,* Nov. 12, 1902) says that in regard to the treatment of cancer by phototherapy the following conclusions might be stated:

1. External cancer before ulceration may be treated by *x*-rays or Finsen light, preferably the latter.
2. After ulceration *x*-rays should be used.
3. For internal cancer only the *x*-rays are available.
4. Clinical results of the treatment are to remove or diminish pain, to loosen adhesions, to cause ulcerating and sloughing surfaces to take on healthy action and to diminish in size by the ingrowth of the epithelium from the edge, and occasionally to dissipate cancerous or sarcomatous tumors.

The writer gives the details of eighteen cases, nine affecting breast, two the tongue, and one each of the following: penis, cervix, rectum, scalp, inguinal glands, larynx, neck. All but three showed improvement, the breast cases being the most successful and the tongue cases least so. Recurrence was usual, and no definite cure had been seen; the treatment was a race with the disease, and a stage could be arrived at in which one or two exposures per week would suffice to keep the disease in abeyance and to remove any distressing symptoms.

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### Daily Weighing as an Aid to Diagnosis.

H. Jacobus (*Ugeskrift f. Læger,* p. 7397, 1902) shows by a number of tables constructed from daily weighings that patients with hydropsy show important variations in weight dependent upon the increase or decrease of the edema. He considers that the information thus obtained is more valuable than any measurements as to the extent of the dropsy or the quantity of urine. Taken in relation with the amount of moisture in the weighed food, a knowledge of the daily weight allows accurate estimation of the dietary for cardiac patients. In addition, the daily weight, together with studies of the urine and feces, will yield some indication of the functional activity of the skin. Chr. Saugman

(*Ugeskrift f. Læger,* S. 295, 1902) shows from a number of studies on tuberculosis patients that the daily weight varies with the amount of food taken and the quantities of the excretions. A difference of about 1500 grammes may be met with in the early morning and after dinner weights. Naturally such points should always be remembered.—*British Medical Journal.*

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### The Serum Treatment of Diphtheria Followed by the So-called Scarlatiniform Eruption.

Karl Leiner (*Wiener Klinische Wochenschrift,* October, 1902) reports a number of cases of diphtheria in which the following characteristics were presented: (1) Five days after the injection of the antitoxin the eruption first appeared; (2) a typical lamellar desquamation followed in a short time; (3) a frequent sequel was a glomerulonephritis; (4) other children in the same room who had not been in any way sick or inoculated with antitoxin developed a similar eruption after exposure in these cases; (5) that the contagium was very tenacious was shown, since a formalin disinfection of the apartments was not followed by a disappearance of the infection; (6) at the site of the inoculation the eruption and desquamation were found to be most abundant. These facts, according to Leiner, show that in these cases a genuine scarlet fever was present.

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## RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

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### Adenoid Vegetations in the Nasopharynx as a Cause of Enuresis.

Fischer, of Copenhagen, has tabulated the results of a large series of cases of adenoid vegetations. His material consisted of 716 cases, partly from private practice and partly from the polyclinic. In the former group, consisting of 400 patients, there were 8 per cent, or thirty-one cases, suffering from enuresis. Of these twenty-four had been followed during their later course. In these cases removal of adenoids gave the following results: in 54 per cent the enuresis was entirely cured, in 31 per cent there was improvement, while no change was observed in 15 per cent.

Among the 316 polyclinic patients enuresis occurred in seventy-five, or 23 per cent, of which only forty-five were observed later. The results showed that 62 per cent recovered absolutely,

thirty-five were greatly improved, and in only one case was no result observable. In all 93 per cent were either cured or improved. The author considers that the obstructed nasal respiration which induces unquiet sleep and aprosexia plays a rôle in the causation of enuresis.—*Internat. Centralbl. für Laryngol.*, etc., vol. 18, No. 10.

## OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

### The Results of Treatment of Epithelioma of the Eyelids by the Roentgen Rays.

Dr. Wm. M. Sweet (*Archives of Ophthalmology,* November, 1902) says that in one case the disease had existed for twelve years, destroying the left eyeball, a large portion of the eyelids, and extending a short distance across the bridge of the nose of the right side. Under thirty-six exposures to the rays, varying from five to ten minutes' duration, the ulcerated area externally entirely healed over, and the orbital disease showed slight diminution. In a second case of epithelioma of the temporal portion of the lower lid, the ulcerated area, measuring 1.5 by 1 centimeters, entirely skinned over after twenty-four exposures, leaving a small indurated mass at the external canthus for future treatment. Photograph exhibited showed the remarkably favorable effect of the treatment.

In giving the exposures to the rays, the healthy tissue is protected by thin sheets of lead, in which an opening is made corresponding to the area to be treated. A tube of low vacuum, placed from six to ten inches from the part, gives the most prompt results.

### A Case of Hard Chancre of the Upper Lid.

Dr. Fitz Weber, Zurich (*Archives of Ophthalmology,* November, 1902), reports the case of a boy, aged three years, who suffered from a hard chancre of the left upper lid.

The patient, a twin, was first seen June 3, 1898, the mother stating she had noticed on the inner third of the margin of the left upper lid, at the site of a cilium, a small red nodule on which was a small vesicle with clear contents. In spite of medical treat-

ment the ulcer rapidly grew larger, and the lid looked as if it had been gnawed. The child had never complained of pain, there had never been any eruption, and there was no apparent enlargement of the glands; nor did the patient ever cough. As regards the manner of infection, nothing definite could be obtained.

Weber's examination revealed an excoriated, mottled, reddish-yellow mass in the inner two-thirds of the lid margin. The affected tissue, which resembled genital mucosa, was two centimeters in lateral diameter and one centimeter in vertical. It was bounded above and to the sides by the displaced margin of the lid.

The patient was placed under the instruction treatment, and calomel applied locally three times daily. After two weeks of this treatment scarcely anything was to be seen of the ulcer. Three months later a plastic operation was performed to close a small defect in the lid margin, through which the sclera could be seen when the lids were closed.

## DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Member of the American Dermatological Association.

### General Remarks on Blastomycetic and Protozoic Dermatitis.

Before the Section on Dermatology of the British Medical Association (*British Medical Journal*), Dr. T. Caspar Gilchrist, clinical professor of dermatology of Johns Hopkins University Hospital, said that blastomycetic dermatitis, or blastomycosis, is primarily and in the large majority of cases a chronic infective disease only of the skin, occurring in adults between twenty and sixty years of age. The lesion begins as a papule or nodule which usually becomes pustular, and then breaks down with the formation of an indolent wart-like lesion, or in rare cases it may go on to form a subepidermal abscess. Primary lesion slowly enlarges peripherally in the form of an indolent flat wart-like or crusted papule. After the lesion has reached a fair size it usually presents a raised papillomatous or verruciform appearance, which is especially marked, and may sometimes be of a fungoid character in very chronic lesions. In many cases in which the patches were extensive and were situated upon the extremities the lesions were markedly elevated, in one case forming a cauliflower-like mass an inch in height. The eruption not infrequently has a foul

odor, and becomes painful and tender when contaminated with the ordinary pus organisms, whereas the pure blastomycetic lesions are practically painless and odorless. There is usually a thin mucoid discharge; adherent scabs are formed in many cases, and on their removal soft, variously sized, easily bleeding, papillomatous lesions are exposed. The patches are always somewhat superficial, involving only the skin. The papillæ vary in size from small to large pin-heads; they can always be separated, and pus can be squeezed out from between them. In the very chronic lesions there is always some attempt at spontaneous healing, either with the formation of pinkish, elevated, rather firm smooth scars, or followed by soft, supple, atrophic scars. In many cases the ordinary pus organisms are found in the lesions, but examination of the pus squeezed out from between the papillæ readily shows the presence of the doubly contoured refractive budding bodies—the blastomycetes.

The diseased patch always has a well defined raised edge which is very characteristic, and which is often smooth and of a purplish-red color, studded with minute abscesses, and slightly infiltrated. The clinical appearance has generally been suggestive of tuberculosis, usually of the papillomatous or verruciform variety. The course of the disease is always chronic, extending from three to twenty years. Wherever the eyelids are involved then ectropion follows.

The disease is autoinoculable, and more than one lesion is usually present. A history common to a large number of cases is of a second lesion appearing within a month or two after the primary lesions.

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### The T. R. Tuberculin Treatment of Lupus Vulgaris.

Drs. H. Radcliffe Crocker and George Pernel, before the Section on Dermatology of the British Medical Association (*British Medical Journal*), said, in respect to the tendency to advocate the revival of the treatment, that there is no doubt that up to a certain point T. R. tuberculin has a beneficial influence on lupus vulgaris, but cases require selection. It appears to produce the greatest improvement in the ulcerative forms of the young, whereas in the nodular forms, especially with fibroid changes, its effects are either trifling or *nil*. It answered well in an infiltrated buttock case, where it was injected locally. The seat of injection plays a part in the result, and local injections apparently answer better than those applied to a distance from the diseased area.

In order to secure permanence of result the T. R. tuberculin

treatment should be followed by the prolonged administration of thyroid extract. Out of six cases, in only one was the effect decidedly good and sufficient to encourage its further use; in four others the improvement was not enough to compensate for its drawbacks, and one was a total failure; this last, however, was one of those hard fibroid nodular cases, which are always intractable. This last patient was also subsequently given up as a failure after the Finsen light treatment at the London Hospital, which also made no marked impression upon the disease.

The drawbacks of the T. R. tuberculin are, first, its expense, for unless many patients are being treated at the same time there is great waste, as the diluted solution will not keep while the small doses are being employed; whereas, if the patients were numerous, when the larger doses are reached, the price per patient would be too great for many institutions. The method is very tedious; where the patient could not be an out-patient, several months' duration in hospital is a serious drawback. This could be shortened, however, if the tuberculin treatment was only restricted to carefully selected cases as an adjuvant either before or after other procedures.

## GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

### Chorio-fibro-angioma.

Calderini (*Lucina,* October, 1902; *British Gynecological Journal,* November, 1902), reporting to the recent Congress at Rome on a case of his own, concluded that tumors of the placenta are not common. Apart from deciduoma, cystomata, and vesicular degeneration, Veit only refers to the forty-three recorded cases. They are, however, interesting as well from the practical as from the scientific point of view; indeed, Calderini's own case not only modified the form of the uterus and caused hydramnios, but led to uterine hemorrhage, premature labor, irregularity of the uterine contractions, untimely rupture of the membranes, death of the fetus, with evidence of congestion of the liver and spleen and dropsy, artificial removal of the placenta, and grave anemia from loss of blood during the third stage. The tumor was as large as a man's fist, in the form of a truncated cone, with the base turned toward the fetus, and its consistence was that of a soft

myoma; the vertical section exhibited a central mass divided from a cortical layer by a sinuous margin resembling that of the arborescence of the villi of the chorion. Histologically the central part was composed of a network of capillaries with delicate walls, surrounded by fusiform elements (chorioblasts); the cortical layer of the connective tissue elements was arranged in bundles, compressing the vessels and reducing them to mere fissures. This new growth, "chorio-fibro-angioma," forms the counterpart of "chorio-epithelioma," since it takes its origin from the parenchymal elements, the vessels and connective tissue of the villi, instead of from Langhans's cellular layer and the syncytium; the former are indubitably derived from the fetal elements of the ovum (chorion allantois), the latter, at all events in part, from the maternal (decidua). Chorio-fibro-angioma, although related to sarcoma, is not, perhaps on account of its not being retained in the uterus, malignant; chorio-epithelioma is so on account of its structure, its more intimate contact with the uterine wall, and because of its remaining in the uterus after the expulsion of the ovum. Calderini considers his case especially interesting from his new point of view, and as forming a basis for dividing the affections of the placenta according to their origin from the maternal or fetal elements of the ovum.

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### The Indications for Interrupting Pregnancy.

A. R. Simpson, of Edinburgh (*Lancet,* Nov. 8, 1902), classes the indications for interrupting pregnancy under the two heads of fetal and maternal. As fetal indications he regards habitual death of the fetus and habitual excessive development of it. The indications from the side of the mother might arise in two categories of patients: (1) in those with some preëxisting or some intercurrent disease, the dangers of which modified, or were modified by, the pregnancy; and (2) in women in whom the development of the pathological conditions bore a direct relationship to the pregnancy. Speaking generally, all cases falling under the first of these categories must be carefully watched, and an opportune moment presenting a minimum of local or constitutional disturbance should be chosen for intervention. Interference might be called for: (1) In affections of the nervous system, especially chorea, when the life of the mother and of the child was threatened by them; (2) in certain affections of the circulatory apparatus, especially cardiac diseases without compensation, except where there was excessive ischemia or pernicious anemia; (3) in certain affections of the respiratory system (here, however, they

must distinguish between acute conditions, where interference is very rarely indicated, and chronic forms where, especially in tuberculosis, it might be necessary in the interests of the child); (4) in certain other affections, such as acute atrophy of the liver and peritonitis, but only very rarely; and (5) in affections of the genital organs, especially tumors. In some of these cases a timely operation might obviate the need for interference; others require close watching; whilst in a few cases intervention might become a necessity.

With regard to the second category the indications are as follows: (1) Obstinate vomiting, but only seldom; (2) hydramnios, but only when the symptoms become unsupportable and the withdrawal of amniotic fluid becomes a necessity; (3) placental hemorrhages toward the end of pregnancy, especially if they recur (here intervention should be prompt in the interests of both mother and child); and (4) in the nephritis of pregnancy and its consequences. Here it might be necessary to interfere if the disease did not yield to a milk diet, or if complicated by other affections, or when eclampsia threatens.

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## Ovariotomy.

Mayo Robson, in his address to the Yorkshire College, Leeds, on the advance of surgery during the past thirty years *(British Medical Journal,* Oct. 4, 1902), remarked that perhaps in no class of cases has greater progress to be recorded than in abdominal diseases, which formerly were for the most part treated in the medical wards. For instance, in the Leeds Infirmary, 1870 and 1871, under the heading "abdominal section," no case was reported; in other words, the peritoneal cavity was rarely opened, and then only for ovariotomy and strangulated hernia; whereas in 1901, 569 patients had had abdominal section performed for diseases of every organ contained within the abdominal cavity. The statistics of ovariotomy in this hospital twenty-three years ago were so unfavorable that tapping was frequently resorted to in order to defer the operation, and even in 1875 twelve patients were thus treated, and only seven submitted to the radical operation. Out of these seven, five died, yielding a mortality of 71.3 per cent. On the other hand, in the year 1901, ovariotomy was performed sixty-four times, with sixty recoveries, giving a mortality of 6.2 per cent; and seeing that this includes malignant, gangrenous, and suppurating cases, as well as patients extremely ill in other ways, the mortality is one of which no hospital need feel ashamed.

### The Blood of Pregnancy and the Puerperium.

G. R. Pray (*American Gynecology*, October, 1902) says that where blood generation fails to keep pace with the increased vascular area a serous dilution of the blood takes place.

In the majority of cases this is not serious, and can be overcome by simple hygienic measures—fresh air, good food, and the overcoming of constipation. Cases in which the vitality is overtaxed by the increased demand for nutrition may call for iron or other hematinic treatment.

The regeneration of the blood is partly effected by the lessening of the vascular area after labor and subsequent transudation of fluids of the blood into the tissues.

The leucocytosis is due to increased action of enlarged lymph glands of the pelvis, and in part to increased metabolism, which causes a somewhat toxic condition. Its decrease is caused by the lochial discharge. Its persistence is accounted for by the fact that the involution of the hypertrophied pelvic organs and breasts is accomplished in a great measure by the leucocytes.

A study of the blood of a woman delivered by the Cæsarian operation shows the same general behavior of the blood constituents as does that of women after normal labors.

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### The Duration of Pregnancy.

Fueth, Leipsic (*Centralbl. f. Gyn.*, 1902, No. 39), referring to the limits set by the Berlin statutes to the possible date of conception as being from the 181st to the 302d day before the birth of the (viable?) child, and to the objection taken to these limits by v. Winckel, who proved from his clinical material that the lower limit of intra-uterine life should be 240 and the upper 336 days, draws attention to the conclusions of a dissertation by Enge, of the Leipsic Klinik, which absolutely confirm the statements made by v. Winckel. As the facts are in direct contradiction to the statute, it is for jurists to decide what attitude they will assume upon the question.

Zweifel, remarking upon Fueth's article, quotes four instances from Enge's thesis in which women carried children more than 302 days from the date of conception—that is to say, 304, 305, 312, and 349 days respectively. He therefore thinks that the section of the statutes which deals with illegitimate children must be supplemented, and the limit of 302 days be extended for large children—that is, for such as exceed 4000 grammes in weight and 52 centimeters in length.

# A Pharmaceutical Giant

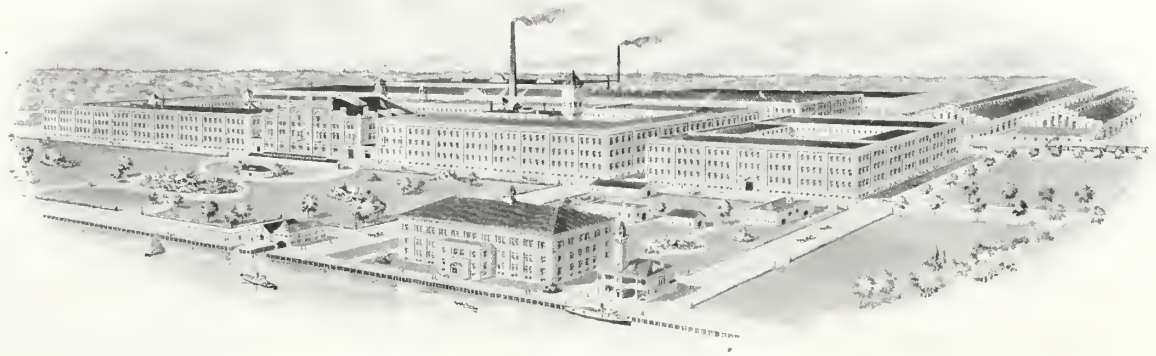
## A Study of the methods by which the house of Parke, Davis & Co. has risen to a place of acknowledged supremacy.

LIKE most great enterprises, the house of Parke, Davis & Co., of Detroit, Mich., unquestionably the most extensive manufacturers of pharmaceutical and biological products in the world, had a very modest beginning. Founded in 1867, there was little in its unpretentious origin to suggest the splendid success which it has since achieved. From its inception it has enjoyed the steady, uniform growth which is characteristic of greatness. To-day the home plant occupies a ground space of 14 4-5 acres, its substantial brick structures alone covering more than four full-sized city blocks. The company maintains branch houses in New York, Chicago, Baltimore, New Orleans, Kansas City, London and Montreal; branch laboratories at Hounslow, England (near London), and Walkerville, Ontario; offices and agencies in numerous large cities of the United States and foreign countries—Europe, South America, Mexico, India, Australia, South Africa and elsewhere—and a traveling force of more than two hundred expert salesmen in the United States alone who call upon the drug trade and medical profession in the interest of the house. Its products include practically every remedial agent known to the materia medica, and they are sold wherever physician prescribes and druggist dispenses.

There has been a marked increase in the company's business during the past year, both at home and in foreign countries. So pronounced

PARKE, DAVIS & CO.'S NEW SCIENCE LABORATORY.

This building, now nearly completed, will be devoted wholly to research work in the fields of inorganic and organic chemistry, biology and bacteriology, physiology and pharmacology. It is 60x160 feet in size, and of modern, fire-proof construction. It will be the largest and most perfectly appointed laboratory building in the United States devoted exclusively to scientific investigation.



GENERAL OFFICES AND LABORATORIES OF PARKE, DAVIS & CO., DETROIT, MICH.

The buildings are situated upon the Detroit River. They are of substantial brick construction, covering more than four full-sized city blocks and occupying a ground space of 14 4-5 acres. To the extreme right, in the background of the picture, are the twin stables of the Biological Department. Directly in front of the stables is a prospective building, the plans for which have been drawn. In the immediate foreground of the picture is the new Science Laboratory, a larger view of which is shown on the preceding page.

has this been in Europe, and so great the demands upon the manufacturing branch at Hounslow, that plans are now under consideration for a new laboratory in England.

### Not the Result of Chance.

NEW YORK BRANCH.
90-94 Maiden Lane.

And what is the secret of this signal success? The visitor to the busy laboratories is apt to ask himself this question. It is not that the firm has a monopoly—competition exists in nearly every large city in the world. It did not come by luck or chance—such successes do not merely "happen." The reasons are probably not one, but many. Energy, enterprise, intelligence well directed, sound business principles, high ideals of commercial integrity, the ambition to manufacture and market products representing the highest standard of excellence—doubtless all these have contributed to the general result.

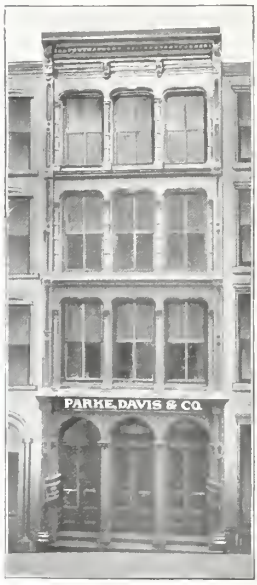
There appears, too, to have been excellencies of interior management not attained by many houses of equal magnitude. The judicious selection of departmental chiefs and the delegation to them of full authority in their several divisions of laboratory supervision, the policy of non-interference in matters of mere detail by those vested with higher authority, and the consequent encouragement of personal interest and individual responsibility, have unquestionably had their part in the development of an organization which is practically automatic in its workings.

KANSAS CITY BRANCH.
1008-1010 Broadway.

An observant writer has said that "the secret of the success of the great business enterprises of the world lies in the talent of some man at the head to get folks who can do things and then let them alone to do them. It requires much less talent and genius to find the man to 'deliver the message' than to keep your hands off and let him do it." The chief officials of Parke, Davis & Co. have not made the mistake of burdening themselves with the multitudinous details of management. They have surrounded themselves with and delegated their authority to capable lieutenants who have won their places by qualifying

experience and efficient service. It is plain that there has been an intelligent division of responsibility—that no one man has borne unaided the burden of management.

### Quality the First Consideration.




BALTIMORE BRANCH.
103 E. German St.

"As cheap as possible, but the best at any price," seems to have been a cardinal principle of the house. How well it has been adhered to may be inferred from the fact that physicians the world over assert that for purity and reliability its products are the finest that can be produced. How has this reputation been earned? By strict adherence to the most rigid rules in the inspection of the crude drugs and chemicals used in its preparations, expert chemists subjecting them to the most careful tests as to quality and character before their purchase, those that are impure or inferior being promptly rejected; by the development and perfection of technical processes of manufacture; by the exercise of the utmost care on the part of trained specialists in their several lines of work, from the occurrence of the first operation until the finished product is labeled and wrapped for delivery.

Parke, Davis & Co. have this important advantage over every American competitor—they are the largest consumers of crude drugs in this country, in consequence of which they enjoy the pick of the world's markets.

### In the Domain of Science.

Parke, Davis & Co. are not merely manufacturers of pharmaceutical and biological products. They are scientific investigators as well, and as such have contributed materially to the wealth of the world's medical lore.

The position of the company in this respect is well defined by a recent utterance of one of its chief officials. "We believe in original investigation," he said. "We believe that the mere appropriation of

THE "TWIN STABLES" OF THE BIOLOGICAL DEPARTMENT.

A VIEW IN ONE OF THE STABLES OF THE BIOLOGICAL DEPARTMENT.

other men's ideas will not maintain for us the place that we have conquered among the foremost manufacturers of the earth. The future belongs to the maker of new, valuable and practical discoveries."

In line with this policy a corps of research workers are employed who devote their time to experiments and investigations in analytical and synthetical chemistry, bacteriology, pharmacology and allied sciences. A handsome four-story brick structure, now in course of construction near the main laboratories, will soon be ready for occupancy by this department. This new science laboratory will be modern in every particular, thoroughly equipped with scientific apparatus, and a substantial addition to the plant.

### Correcting Nature's Defects.

Early in their career as pharmaceutical manufacturers Parke, Davis & Co. made the important discovery that different lots of many drugs in their crude form varied widely in their content of active constituents. One shipment, for instance, would contain perhaps double the proportion of alkaloid found in a preceding lot. They perceived that this lack of uniformity, unless corrected, would lead to serious consequences. The medical practitioner who prescribed a preparation of unknown strength was walking in the dark. He was virtually compelled to make a test of the drug on his patient.

NEW ORLEANS BRANCH.
600–610 Camp Street.

Parke, Davis & Co. immediately began the employment of scientific methods to correct natural discrepancies—they began the chemical assay of their drug extracts. In 1879 they introduced their first standardized

A GROUP OF HORSES IN ONE OF THE OUTDOOR PADDOCKS.

preparation. The work was slow; it was expensive. But they persevered and at the end of four years had developed a series of twenty standardized fluid extracts. To-day their entire line of fluid, solid and powdered extracts and concentrations are made to conform to fixed and definite standards of strength.

A second discovery was made that many important drugs could not be chemically standardized. Ergot, digitalis, cannabis indica, convallaria, strophanthus and others equally important are among the number. The firm conceived the idea of testing such drugs physiologically—that is, upon living animals. So accurate are the processes that the results are scarcely less satisfactory than those obtained by chemical assay when that method is expedient.

As the pioneers in drug standardization by whatever process, as the first pharmaceutical manufacturers to test physiologically those drugs which are not amenable to chemical assay, Parke, Davis & Co. have rendered and are rendering to medicine and the medical profession a service whose value cannot be measured.

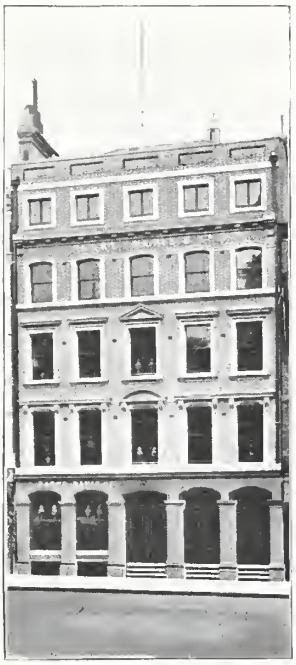
### Diphtheria Robbed of Its Terrors.

Parke, Davis & Co. were among the first of American investigators to study the serum treatment of diphtheria and to engage in the manufacture of diphtheria antitoxin. Their research in this direction alone, the result of which is to place in the hands of the physician a remedy which robs of its terrors the most dreaded disease of childhood, sufficiently stamps them as benefactors of the race. The perfection to which they have brought the manufacture of their Antidiphtheritic Serum is well illustrated by recent reports of its use by medical practitioners in all parts of the country. Seventy-four prominent physicians announce that in 2,197 cases of diphtheria treated by them with Parke, Davis & Co.'s antitoxin but 51 deaths resulted, and it is confidently believed that many of these

CHICAGO BRANCH.
44-46 Franklin St.

would have been averted by earlier administrations of the serum. One physician in Iowa reports its use in over two hundred cases with but one fatality, and this a case in which the antitoxin treatment was resorted to only in a late stage of the disease.

The firm likewise manufactures an antitoxin for the treatment of tetanus, in the use of which physicians have been wonderfully successful, and another for erysipelas.



LONDON (ENG.) BRANCH.
111 QUEEN VICTORIA ST., E.C.

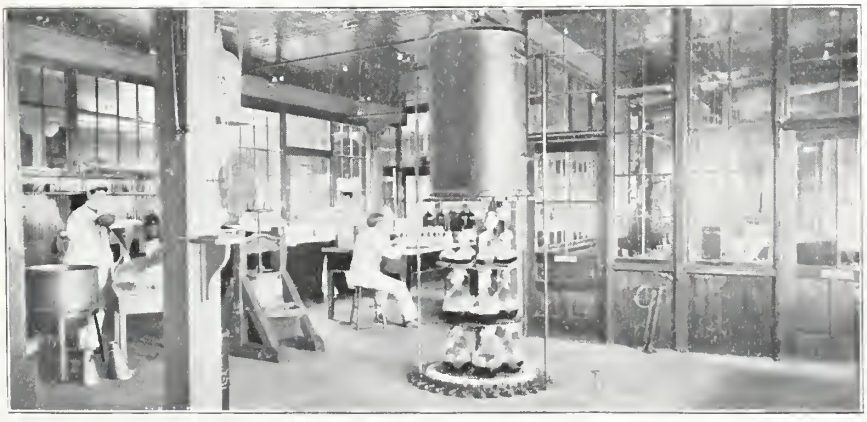
### Other Scientific Triumphs.

Aseptic Vaccine is another product which has brought the house much favorable attention. This preparation has long held a prominent place in the esteem of physicians. Its superiority is said to lie in the fact that not only does it effectually protect the patient from smallpox, but its application is not followed by the hideous ulcers and consequent disfigurements which not uncommonly result from the use of vaccines prepared by older and less scientific methods.

The perfection of the firm's vaccines and antitoxins has been attained only after years of patient investigation and the expenditure of enormous sums of money. The extraordinary success which has attended these explorations into the domain of science warrants the hope that the day is not far removed when equally effective remedies will be available for the treatment of cholera, consumption, cancer, yellow fever and other scourges which have thus far baffled the physician.

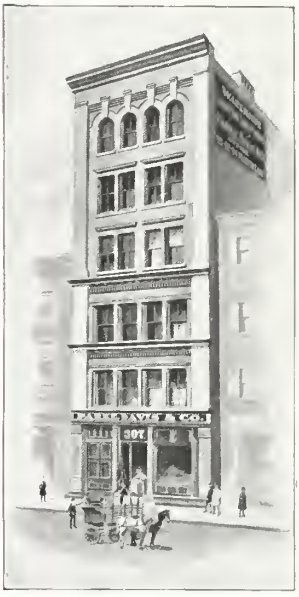
### Some Important Discoveries.

Not the least service which the firm has rendered to medicine and the medical profession is the discovery and introduction of many important



A CORNER IN THE BIOLOGICAL LABORATORY.

drugs which have been adopted as standard remedies in all parts of the globe. Cascara Sagrada, the tonic laxative, for many years recognized by practitioners as one of the most important drugs in the materia medica, is an example of its research in this direction. Taka-Diastase, the wonderful starch-digestant which physicians have found so serviceable in the treatment of dyspepsia, is another case in point. Adrenalin, a valuable astringent and powerful heart-stimulant, a later discovery which is now attracting the attention of the medical world to an extent perhaps unequaled in recent years, may likewise be mentioned in this connection. And these are only a few of a long line of remedial agents now recognized as official in many countries other than our own which have been brought to light by this company as a result of its efforts to assist the medical profession in its fight against the common enemy of man.



NEW YORK CRUDE DRUG WAREHOUSE.
307 Pearl Street.

### Exploring the World's Forests.

In their quest of new and useful remedial plants Parke, Davis & Co. have explored the forests of many countries. One representative spent an entire year in the Fiji Islands. Another was despatched to Brazil; landing at the mouth of the Amazon, he penetrated twenty-five hundred miles into the interior of the country, traversing the valleys of the Madeira and other tributaries of the great river. Still another made an extensive tour of southern South America; landing at Buenos Ayres, in Argentina, he proceeded overland, on horseback, across the continent and over the Andes Mountains to Chili. A special expedition was sent to the West Indies. Other representatives explored the Pacific coast from British Columbia to Central America. Later a well-known botanist spent several months in the coca-producing region of Peru in the interest of the house, his return trip to Para, 3000 miles down the Amazon, being made in canoes and on rafts. These and other explorations have entailed the expenditure of much time, labor and money, but their results have been given freely to the world by Parke, Davis & Co. through their allies of the medical profession.

WALKERVILLE (ONT.) LABORATORY.

**ANTIPHLOGISTINE** Has the reputation of being the best local treatment for Pneumonia, Pleurisy, Erysipelas, Inflamed Glands, Boils, Synovitis, to limit the spread of inflammation from vaccination and for all cases of inflammation where a local medicine is indicated.

**ANTIPHLOGISTINE** Is soothing, easily applied and removed and is far superior to the ordinary methods, hot poultices and counter-irritants, because

**ANTIPHLOGISTINE** As a non-conductor of heat, applied warm and thick, directly to the skin, maintains the temperature at which it is applied, or nearly so, for from 12 to 24 hours, and works through reflex action and through dialysis, the latter scientifically including the processes of ex- and endosmosis. IT FLUSHES AND DEPLETES THE CAPILLARIES, evidenced in nearly every case by AN ACCUMULATION OF MOISTURE underneath that part of the dressing where the inflammation is most pronounced; it relieves congestion and pain, when the muscular and nervous systems become relaxed and the sufferer usually falls off into a peaceful sleep which often marks the beginning of convalescence.

**ANTIPHLOGISTINE** Should be used intelligently. In double pneumonia the entire thoracic walls should be covered; in bronchial affections the chest only in many cases need be dressed; in inflammation of the bowels the entire abdomen should be covered; in affections of the joints it should be applied ABOUT the joint and several inches above and below. In each instance complete the dressing with absorbent cotton and a suitable compress.

**ANTIPHLOGISTINE** Packages are seamless and sealed, easily opened, and the different sizes enable the physician to conveniently prescribe in each instance a full and original package and by so doing know that the medicine has not been exposed and made less capable by absorbing moisture from the atmosphere.

**ANTIPHLOGISTINE** Is put up in four size packages—Small, 50 cts.; Medium, 75 cts.; Large, $1.25; and Hospital size, $2.50. A Medium can free to any physician upon receipt of 25 cents for carriage.

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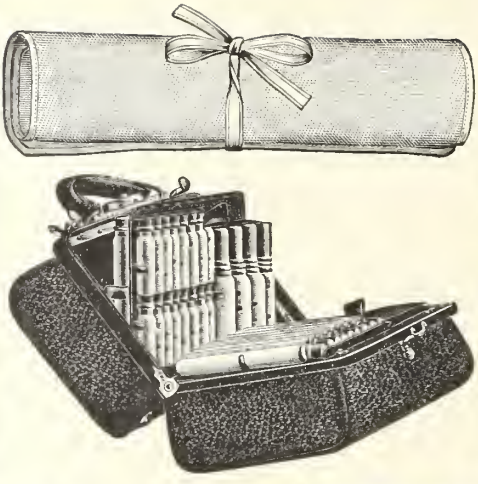

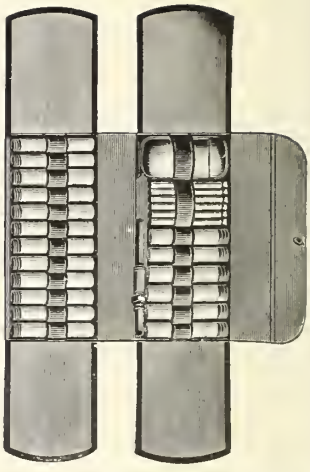

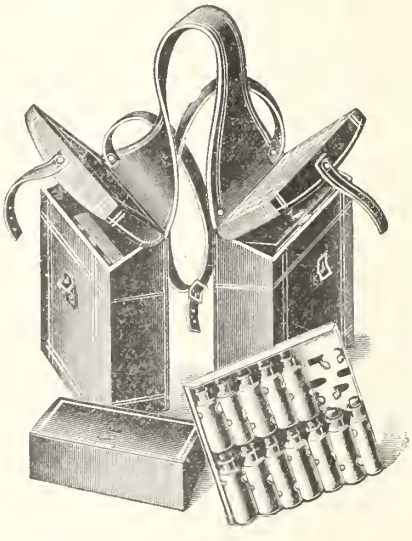

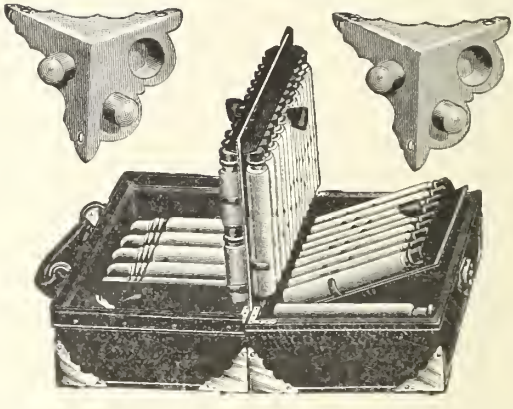

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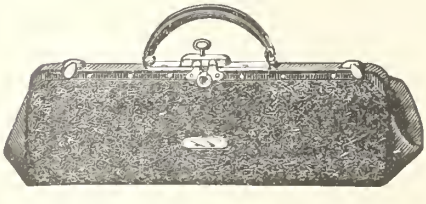

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in life resides in the **crimson stream** which is constantly pumped through the vascular channels to feed the hungry tissues. How important it is to **keep this vital fluid rich in life-giving elements.**

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**IS A TRUE "BLOOD BUILDER."**

It supplies the deficient haemoglobin in cases of

**Anæmia, Chlorosis, Rickets, Amenorrhœa, Dysmenorrhœa, etc.,**

by infusing **Organic Iron** and **Manganese** (oxygen-carrying and haemoglobin-making elements) into the depreciated circulating fluid.

**It should be prescribed in all cases of "BLOOD POVERTY" from whatever cause it may arise.**

Be sure it's "GUDE'S." Samples and literature upon application.

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COLLARGOLUM is a soluble, non-poisonous allotropic Silver acting as a most effective General Antiseptic, and causing neither local reaction nor general poisonous effects. It has been employed with brilliant effect in Puerperal and other Sepses, in Cerebrospinal Meningitis, and wherever a **general blood and tissue disinfectant** has been required. In sterile blood or lymph it remains metallic silver; but in the presence of pathogenic bacteria or their toxins it enters into combination, and acts as **a vigorous germicide or antitoxic agent.** It may be employed by the mouth in capsule form or solution, injected into the veins, or applied locally to wounds; but in many cases it is most conveniently introduced into the system by the inunction of

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containing 15% of Collargolum, the employment of which has proved of the greatest value in the treatment of Septic Infections of the most varied kinds.

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**Specifics for Phthisis Pulmonum and Pneumonias of all kinds.**

ALL the objections to the employment of creosote and guaiacol, the method of election for the treatment of tubercular and other affections of the lungs, are obviated by the administration of these neutral, non-toxic, non-caustic, and absolutely non-irritating preparations, which contain 92% and 91% of these drugs respectively. The testimony is unanimous that they cause no gastric disturbance even in massive doses, but on the contrary, agree so well with the patients that their weight usually increases. They have very favorable effects upon the night sweats and fever, and the cough and expectoration are materially lessened or disappear entirely. Their action is undoubtedly specific in phthisis, and every case not too far advanced can be greatly benefited by their use.

Both Creosotal and Duotal are most eligible and effective germicides, and most vigorous neutralizers of microbic poisons in the intestinal tract. The remarkable effects obtained in tuberculosis, typhoid fever, rheumatoid arthritis, whooping cough, bronchitis and catarrhal affections of all kinds are explainable by the great powers of elimination of toxalbumins which these remedies have been proven to possess.

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**FOR**
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ORPHOL is a neutral, odorless, tasteless, and non-toxic intestinal disinfectant with marked astringent properties. It may advantageously be employed in the place of the ordinary antiseptics, carbolic acid, naphtol, resorcin, bichloride of mercury, etc., which are caustic and poisonous, and it is superior to the newer tannin preparations, which possess no bactericide action at all.

Orphol is indicated in all the fermentative gastro-intestinal processes, in ptomaine poisonings, gastro-enteric catarrhs, typhoid fever, etc. Four or five 15 grain doses of Orphol will usually cure the very worst cases of diarrhœa; and in cholera infantum 2 to 5 grains administered every three or four hours act admirably.

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**THE IDEAL SUBSTITUTE FOR IODOFORM.**

XEROFORM is an antiseptic, deodorizing, and desiccating agent of powerful antibacterial properties, which is odorless, non-poisonous, and non-irritating. It has been satisfactorily employed in the place of iodoform in the most varied operative procedures and surgical affections, including amputations, enucleations, cancer and periostitis operations, and deep abscesses; and in the treatment of chancroid and all suppurative skin affections. It has also been used in ophthalmic and gynæcological practice, and for insufflation into the nose and ear. It has also been found to be a very efficient internal antiseptic in cholera and intestinal tuberculosis.

**SCHERING & GLATZ, 58 Maiden Lane, New York,**

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DEAR DOCTOR:

Have you a patient afflicted with Bright's disease, Valvular heart trouble, Cirrhosis of the liver, Exophthalmic Goitre, or any other pathological condition in which the natural balance between the arterial and venous systems has been destroyed?

If so, do not let your patient die without a fair trial of **Anasarcin,** a combination of the active principles of Oxydendron Arboreum, Sambucus Canadensis, and Urginea Scilla, the most reliable preparation yet brought to the notice of the profession for relief of the above named diseases. **Anasarcin** has only recently been offered to the profession, but the phenomenal success which it has achieved in so short a time is sufficient evidence that our claims are not exaggerated. **SOLD ONLY TO PHYSICIANS.**

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**THE ANASARCIN CHEMICAL CO., . Winchester, Tenn.**

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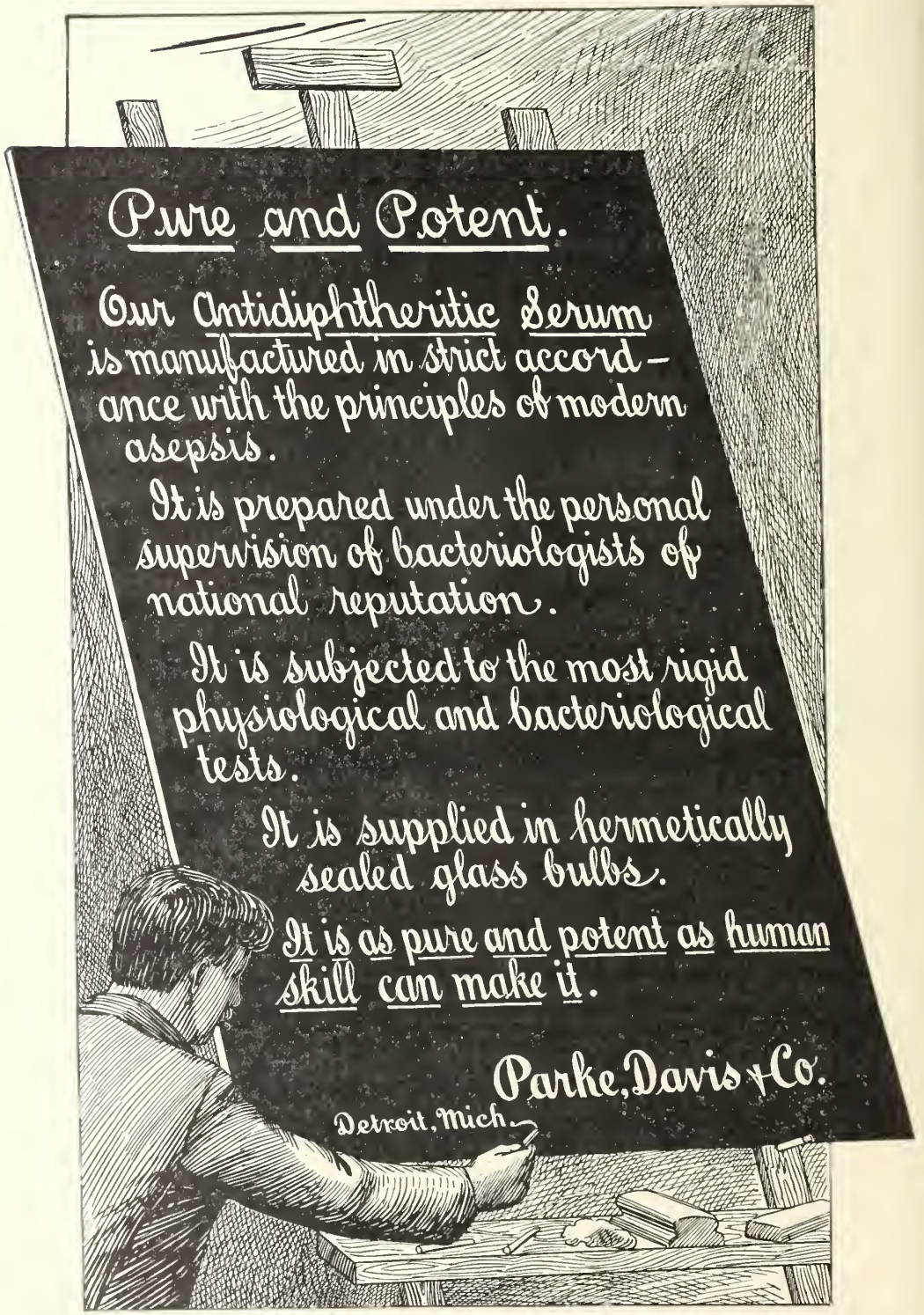
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Our Antidiphtheritic Serum is manufactured in strict accordance with the principles of modern asepsis.
It is prepared under the personal supervision of bacteriologists of national reputation.
It is subjected to the most rigid physiological and bacteriological tests.
It is supplied in hermetically sealed glass bulbs.
It is as pure and potent as human skill can make it.
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# Typhoid
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and all diseases arising from impoverished blood and a depleted physical condition demand the most efficient

# NUTRITION

The patient **MUST** have a new and continuous supply of all the vital elements in which the blood is deficient.

Introduce in all such cases **LIVE BLOOD.** All the leading and most successful practitioners to-day are using

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It is **LIVE,** defibrinated arterial blood.
It is preserved by cold process and sterilized.
It retains all the vital and nutritive elements.
It contains 20 per cent of coagulable albumen.
It is a fluid food, pure and simple.
It aids digestion, and is promptly assimilated.
It is to a large extent directly absorbed.
It sustains and stimulates the heart.
It renders cardiac stimulants unnecessary.
It is a powerful aid to all forms of medication.

**THE BOVININE CO.,**
**75 West Houston St., New York.**

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ERGO-APIOL

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Put up Expressly for the Physician's Use, under whose advice and care they are to be taken.

Apiol—Special M. H. S.
Ergotin.....
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IN ELASTIC CAPSULES

Introduced and Handled as an Ethical Preparation only.

Put up in capsule form only, packed twenty in a box.

*DOSE—One or two capsules, three or four times a day.*

**Physicians are kindly requested to always order original package when prescribing.**

**ERGOAPIOL**—(SMITH) is lauded a superior preparation because of the Apiol mentioned; a truly active and perfect prepafation of Apium Petroselinum, made by a new process peculiarly our own—(not the almost inert complex concentration known to you under this name); the excellent and original composition of the whole; the quality of each ingredient; the great care exercised in its manufacture, and most important

**THE THERAPEUTIC RESULTS ACTUALLY OBTAINED.**

Physicians are requested to write for samples.

SUPPLIED BY ALL RETAIL DRUGGISTS THROUGHOUT THE UNITED STATES.

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*Physician's price for complete package, one dollar.*

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One great cause of sleeplessness in infants is improper or insufficient food.

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SAMPLES OF MELLIN'S FOOD TO PHYSICIANS FREE.

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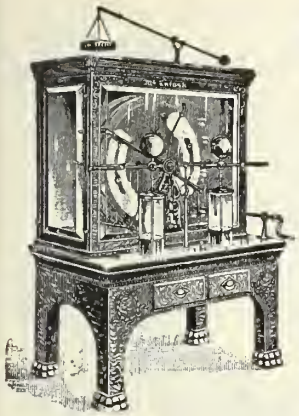

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All of the most up-to-date, desirable and satisfactory apparatus now on the market has been originated by the McIntosh Battery and Optical Co. The time has come when the practitioner can buy direct from us for cash, these original devices in high-class workmanship and finish at less than some of the blatent advertisers are offering cheaply made copies of McIntosh goods. You will consult your own interest Doctor, if you will correspond with us in regard to Static Machines, Switchboards, Batteries or Electrodes before placing your order.

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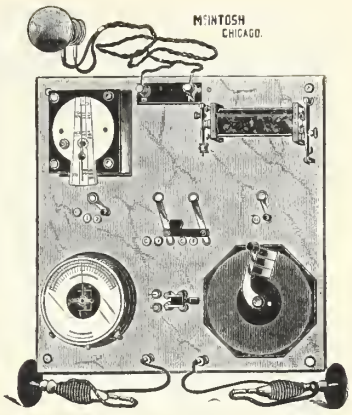

**THE PERFECTION INHALER** Applies any medication desired, for as long a time as desired, and without discomfort to the patient. Complete valve system that permits perfectly natural breathing. Light and durable. Aluminum the only metal used. To physicians only, $2.50.

**In Pulmonary Tuberculosis**

our Creosote-Formalin-Iodin Compound, as an inhalant, has given remarkable results. An almost certain cure in first and second stages. Bottle containing one month's supply, $1.00. Three inhalers and three bottles Compound, $10.00. Circulars upon request.

Over **One Hundred Physicians** have volunteered their endorsement of this instrument and inhalant compound.

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Within the 40 pages of text of the AGE, not a single line of advertising is ever printed. There are no advertising inserts; no commercial notes of any description whatsoever. We regard each subscription as a contract with the physician to furnish him semi-monthly with 40 pages of the most reliable information that can possibly be collated.

Guarding your rights along these lines as carefully as we do we beg of you to read the announcements of our advertisers, and favor them with inquiries and requests for samples; and when so doing, please be so kind as to mention having seen the advertisement in the MEDICAL AGE.

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HOW SHREDDED WHOLE WHEAT BISCUIT ARE MADE.—The best of wheat is bought directly from farmers, cleansed of chaff, dust, foreign seeds, etc. Then the rock and other substances of greater gravity than the wheat are removed by an ingenious mechanical device. After thorough washing in cold water the wheat next goes into great tumblers containing boiling water where it remains until thoroughly cooked, during which time the tumbler has been constantly revolving. This operation leaves the wheat berry in the whole state. This is the first cooking. By further agitation out of water the wheat is prepared for and spouted to the hoppers of the shredding machine.

The shredding machine is one hundred and four feet long, contains thirty-six pairs of shredding rolls, each of which deposits continuously about eighty shreds on a belt the thickness of a biscuit. Continuing, the belt passes under the knives and the shreds are cut into biscuit three by four inches. Here the shreds, now in biscuit form, are carried by an automatic device and deposited on the pans. The biscuit are then baked for about 30 minutes. The ovens are of the Ferris wheel style and are the largest in the world. As the shreds are light and porous the high degree of heat thoroughly bakes them. This is the second cooking.

Still on the wire pans the biscuit are now placed in a furnace of lower degree of heat, where they remain from two to three hours. This is the third and last

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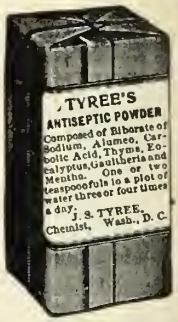
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Composed of Biborate of Sodium, Alumeo, Carbolic Acid, Thyme, Eucalyptus, Gaultheria and Mentha. One or two teaspoonfuls to a pint of water three or four times a day.
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A powder, very inexpensive, which, when dissolved in water, makes a pleasant, non-irritating, non-poisonous lotion, not staining the linen, and which has a

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against those peculiar pathogenic germs which infest the genito-urinary organs (male as well as female); hence is a never-failing remedy for

## LEUCORRHEA, GONORRHEA and GLEET

If intelligently used according to directions, it will CURE all cases, including the acute cases and the stubborn chronic ones as well.

Also very effective in Pruritus of the genital regions. The formula is given, and the preparation is advertised in a strictly ethical way to the medical profession only.

A 2-oz. box of Pulv. Antiseptic Comp. (enough to make two gallons of antiseptic lotion) will be sent, once only, for 10 cents, if you mention this journal. (This would make about seven dollars' worth of the usual bottled antiseptic solutions.)

**This is all pure capital—you pay for no water.**
**You can take it with you—no liquids to carry.**

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cooking, and by which processes the starch in the wheat is rendered soluble, making the same a proper food for a person with the weakest stomach or for the hardiest man. After removing from this furnace, the biscuit are allowed to cool. They are then deposited on the packing table, where for the first time the hand touches them, but absolute cleanliness and tidiness are required of the packing girls. The latter place one dozen biscuit in each paper carton, placing an insert of paper between each layer of biscuit. Fifty of these cartons, or fifty dozen biscuit, are nailed securely in neat, clean wooden cases, and are then shipped to the wholesale trade—an absolutely clean and perfect food, without an equal.

Shredded Whole Wheat Biscuit retain all the original constituents of the wheat berry. They are simply whole wheat, all wheat and nothing but wheat. Nothing like them has ever before been produced. They are short without shortening, and light without yeast or other chemical. Thus it is found that the whole wheat is sufficient unto itself when unhampered and the original elements left intact; and in Shredded Whole Wheat Biscuit it finds its fullest expression in nutrient, life-sustaining qualities.

We have on file hundreds of letters which bear willing and unsolicited testimony to the wonderful results attending the use of the Shredded Whole Wheat Biscuit. It would be a pleasure to print all of these, but space forbids. However, a few abstracts are given below:

"Have advised its use in all forms of impaired nutrition and phosphatic deficiency."—DR. ORA E. CASTLE, Lynn, Mass.

"This food does not require to be praised—it is a self-evident fact to any person of thoughtfulness that such preparation must stand at the head of the list as a nutriment. We use it freely in our family to prevent sickness."—DR. W. R. DUNHAM, Keene, N. H.

"Am an advocate of it as a nutritious

# Physicians' Whiskey

Whiskey is conceded to be of great value for medicinal purposes. Recognizing that purity is the main requisite in all things medicinal we have decided to offer our famous **"Silk Hat Rye"** and **"Bourbon" Whiskies** direct to the medical profession and the consumer generally.

We are forced to do this in order to disqualify and cut out the middleman and his vile tendency to unscrupulous adulteration.

Physicians can use this whiskey **hypodermically with surety as to its purity.**

We will send you **Four Full Quart Bottles** of our medicinally pure untampered **Silk Hat Rye** or **Bourbon Whiskey** (8 years old) on receipt of **$3.20.**

Remember we prepay express charges and pack goods in neat plain cases without marks to indicate contents.

*If the goods are not as represented return them to us at our expense, and we will refund your money.*

We have a ten-year-old private stock of whiskey which we offer at **$4.25** for Four Quart Bottles.

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**GINSENG DISTILLING CO., ST. LOUIS, MO.**

REFERENCE:—ANY BANK IN ST. LOUIS MERCANTILE AGENCIES.

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and useful food."—DR. DWIGHT M. HODGE, Secretary Board of Health, Franklin, Mass.

"I am prescribing your products as well as using them myself."—ALFRED K. HILLS, M.D., Editor *New York Medical Times.*

"As a digestive, and in case of chronic constipation and dyspepsia, it acts as one of the very best remedies I have ever prescribed."—B. P. ANDERSON, M.D., Colorado Springs, Colo.

"I have used the Shredded Wheat Biscuit in hospital practice and find the results highly satisfactory. They are especially beneficial in cases of indigestion, complicated with constipation."—ALBERT A. TAFT, M.D., Carney Hospital, Boston, Mass.

"I have practiced medicine more than fifty-three years, and am the oldest practicing physician in Norfolk County. After eating a breakfast of Shredded Wheat Biscuit, I find myself in better condition for my forenoon's driving, and have less desire for food for five or six hours than when eating a hearty meat breakfast. They assimilate perfectly and keep my bowels in good order."—DR. E. A. ALLEN, Randolph, Mass.

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A SUGGESTION IN THE TREATMENT OF "BAD ARM."—The present epidemic of smallpox has made itself most evident in the large number of vaccinations which have been done—the percentage of "takes" is one of the remarkable things. Giving due credit to more reliable virus than has been generally in use previously, it still seems that general conditions must be as favorable to vaccination as to smallpox. That more "bad arms" were not seen is largely due to the fact that better methods of treatment are now in vogue than were, even a year ago. The various shields, all somewhat valuable, but some remarkably so, have been a protection. Then the pro-

Vegetol
CEREAL DENTIFRICE.
SOLD BY DRUGGISTS.

FOR Sterilizing the Mouth, Teeth and Tongue.
BAD BREATH.
Removing the Bad Taste of Medicines.

*Pus* and ***dead bone*** are always present with excessive deposits of tartar; thus disease germs are sown in the stomach at every swallow and pathogenic germs are continually entering the open blood-vessels about the teeth. No human being can be in perfect health under these circumstances. "Vegetol," by frequent use, will prevent these accumulations and keep the gums healthy.

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Send for sample, also booklet on the subject, containing formula.

fession has found that the Antiphlogistic method of treating the more aggravated of these arms is a success. The use of strong antiseptics has been objected to, as they undoubtedly interfere with the working of the virus, but the application of a generous layer of Antiphlogistine completely covering the inflamed area will speedily allay the inflammation without in any way interfering with the success of the vaccination. The dressing should be changed only when it has become dry—usually two or three applications will be sufficient. After the subsidence of all inflammation the scab, which has assumed a grayish-white while kept softened by the Antiphlogistine, may be allowed to take care of itself; it will follow the usual course of the normal of its kind. In the presence of Antiphlogistine, inflammation and suppuration will not thrive—its many uses will be indicated by the statement. It is a success not only in minor surgery, but in some more serious conditions as well. It is also useful in epididymitis and inguinal adenitis, speedily aborting a considerable proportion of the cases where it is employed.—*Medical Fortnightly,* March 25, 1902.

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Removal of Gunpowder Stains.—On Christmas day a boy of twelve filled a vaselin bottle with powder and exploded the same. I arrived on the scene about three hours after the accident and found the cornea and sclerotic of both eyes and the face literally blown full of powder. I removed a dozen or more flakes of powder from each cornea with a foreign spud; also removed the powder from the sclerotic. Did the operation under a four-per-cent solution of cocaine. After the operation I used a fifteen-per-cent solution of Hydrozone in the eyes. After removing the particles of glass from the face, I kept a cloth over it saturated with a fifty-per-cent solution of Hydrozone. At the end of two weeks I used a saturated solution of boric acid in the eyes and painted the face twice daily with equal parts of Hydrozone and glycerin. The eyes are well, and powder stains have disappeared from

IN PREGNANCY—**Hunyadi Janos** is especially indicated and efficacious in the treatment of pregnant women, preventing hemorrhoids and keeping the system before and after confinement in perfect condition.

**Hunyadi János** THE BEST NATURAL APERIENT WATER.

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Golden Cross Eye, Ear, Nose, and Throat College and Clinic.
Dept. J, CHICAGO, ILLINOIS.

the face.—DR. E. G. CORBETT, Hampton, Fla., in the *Medical World* of Philadelphia, Pa., February, 1902.

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"I FULLY regard Chionia as an excellent remedy and am highly pleased with its action in all cases of hepatic torpor, and can especially laud its action in many cases of sick-headache. This is the first testimonial I have given in twelve years, and have absolute confidence in its physiological action."—J. B. YOUNG, M.D., Newark, Ind.

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"IT GIVES me great pleasure to state that my experience with Cactina Pillets has been most satisfactory in cases of rapid, irregular heart action. I find their use most successful in controlling and relieving the cardiac pains accompanying this condition."—JAMES H. CARR, M.D., Buffalo, N. Y.

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SCIATIC PAIN—PROMPT RELIEF.—In reporting his experience in the treatment of sciatica, Fred. E. Davis, M.D., of Brookside, Ala., writes as follows in *Annals of Gynecology*: "I have been giving Antikamnia and Heroin Tablets a thorough trial in the treatment of sciatica, and I must say that my success has been phenomenal indeed. I have also induced two other physicians to give them a trial, and their success equals or surpasses my own. I meet with many cases of sciatica, and until Antikamnia and Heroin Tablets were introduced I was compelled to use a great deal of opium and morphine to relieve the pain. Since then, though, I have not given either. One of my patients had been confined to bed for three weeks during her last attack of sciatica. I prescribed one Antikamnia and Heroin Tablet every four hours, and in forty-eight hours she was up and about and has not felt the pain since. I thank you for the introduction of this most excellent remedy, and assure you of my willingness to report the results of still further investigation."

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THE VALUE OF SANMETTO IN SURGICAL OPERATIONS.—It is with pleasure that I attest the merits of Sanmetto, and I think my experience with the drug justifies all the good things I can say of it. I have used it very extensively, and especially do I find it valuable in allaying inflammation in the prostatic urethra before surgical operations, and in keeping urine bland and non-irritating after the operation is complete. It always has a soothing and sedative effect upon the kidneys, bladder, and urethra. I shall continue its use in all forms of genito-urinary irritation.—THOMAS P. GRAHAM, M.D., Chicago, Ill.

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A SPLENDID opportunity for a good German physician. For particulars address W. H. Kinsley & Co., Manistee, Michigan.

FOR EXCHANGE.—Clinical Atlas of Skin Diseases, by Robt. W. Taylor, M.D.; Philadelphia: Lea Bros. Large colored plates, true to nature, with descriptive text. Half-morocco binding; cost $35. Will exchange for anything I can use: Small printing press, stereopticon, Ridpath's History of the World, or other books. Address H. Erichsen, M.D., 240 Chandler Ave., Detroit, Mich.

FOR SALE.—Unopposed paying location in Southern Indiana, pike roads, fine farming country. German settlement and exceptionally good pay. Your own price with half down—say $500 for entire property. Reasons—Hospital Appointment. Address, Doctor, No. 182 Macon St., Brooklyn, New York City.

FOR SALE.—$2500 practice in Southern Illinois. Terms $500 cash. Address, B. A. J., Medical Age

FOR SALE.—Stock of books, instruments, furniture, and medicines, invoicing respectively at $150, $190, $75, $125; Neat office, has been occupied by physicians for 22 years. Population of the town is 2250. Only two regular practicing physicians. Reasons for selling, going east to take up surgery. Will sell for cash before March 1st for $450, which will include right to occupy office and an introduction. Practice amounts to $150 per month. Address, Lock Box 395, Harper. Kans.

WANTED.—Practice in Michigan or New York only. Give full details, price, competition, fees, character of country, and pay, in first letter. Address Box 80, South Haven, Mich.

FOR SALE.—My practice and property in the thriving village of Weedsport, N. Y. Practice from $2500 to $3500, with good collections; fine farming country and good roads. Property consists of fine residence, large lot and barn, located in the center of the village. Business position very desirable for a physician. Practice thrown in to purchaser of property. Good chance for right man. Best of reasons for wishing to sell. Address R. D. Nellis, M.D., Weedsport, N. Y.

A CATHOLIC physician (or a German) with $300 or $400 cash can learn of an excellent location by addressing "Ohio," care Excelsior and Lumber Co., Jackson Center, Ohio.

FOR SALE.—$225 cash will buy instruments, books, office furniture, etc., to that value. Good unopposed country and village practice donated to immediate purchaser. Don't write unless you mean business. Address W. Taubman, Hartford, Mich.

FOR SALE.—If sold soon, $500 cash will buy a good, unopposed practice, including office and barn furnishings, drugs, instruments, etc., to the value of $300, in a beautiful village in Southern Michigan. Good pay, good roads, good society, fine farming country, and near summer resorts. Reason, ill health. Address M. Newton, Benton Harbor, Mich.

FOR SALE.—Good cash office practice, price $2200. Incumbent wishes to retire. Many hundreds of dollars worth of instruments, apparatus, office furniture, etc. The opportunity of a lifetime for an exclusively cash office practice. "Doctor," L. Box 641, Wichita, Kans.

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BROADENING OF THE X-RAY FIELD.—That the field of usefulness of the *x*-ray apparatus is constantly widening there are many evidences. In the examination of fractures and dislocations, and in the location of foreign bodies, its value is, of course, universally recognized.

In their application as a therapeutic agent a new and unexpected use of the *x*-rays has developed. As an anodyne, and in the treatment of various forms of malignant disease, their worth has been attested by reliable observers in all parts of the world. The anodyne effect of the rays is marked and prompt. Upon the pains of neuralgias, malignant tumors, acute and chronic joint affections, etc., exposure to *x*-rays, as every physician knows, is not infrequently attended with results that are almost magical.

For a long time it seemed probable that the costliness and complexity of the *x*-ray apparatus would preclude the possibility of its general adoption. The American X-Ray Company, of Chicago, however, seems to have overcome these difficulties. It claims to have produced a thoroughly reliable machine, free from complexities and simple in operation, at a price within the reach of every physician.

The outfit, consisting of coil, storage batteries, *x*-ray tube, tube-holder, fluoroscope, and the necessary connections and switches, is delivered ready for use—a complete *x*-ray machine, with all accessories. It is contained in a handsome mahogany finished case, with nickel-

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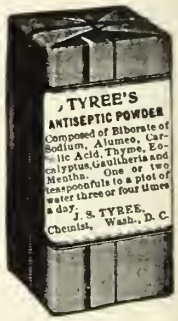
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ANTISEPTIC POWDER
Composed of Biborate of Sodium, Alumen, Carbolic Acid, Thyme, Eucalyptus, Gaultheria and Mentha. One or two teaspoonfuls to a pint of water three or four times a day.
J. S. TYREE,
Chemist, Wash., D. C.

A powder, very inexpensive, which, when dissolved in water, makes a pleasant, non-irritating, non-poisonous lotion, not staining the linen, and which has a

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**This is all pure capital—you pay for no water.**
**You can take it with you—no liquids to carry.**

# J. S. TYREE, Chemist, WASHINGTON, D. C.


plated trimmings, which, open or closed, presents a very attractive appearance. The entire apparatus can be carried to any point by slipping out the batteries without disturbing any other parts. On arrival it is ready for immediate use upon opening the case and inserting the batteries.

The fluoroscope is made of hard rubber, under patent owned by the company, and is said to be the best obtainable. It is provided with a barium-platinum-cyanide screen, like that originally used and recommended by Roentgen—the best and most durable screen that has been discovered.

The machine is entirely adjusted when delivered, so that no electrical knowledge is required to set it up. There are no complicated parts to get out of order, and no special training is required to care for or operate it. The company sells it with the distinct guarantee that the quality and workmanship of the apparatus are of the best.

To those of our physician friends who may contemplate the purchase of such an outfit we would suggest the propriety of investigating the apparatus which the American X-Ray Company is placing upon the market. An illustrated booklet fully describing it has recently been issued, and will, we have no doubt, be cheerfully sent to any physician requesting it. The company's address is 250 Wabash avenue, Chicago.

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COUGH AND ITS TREATMENT IN PULMONARY AND LARYNGEAL TUBERCULOSIS.—In my college days I heard Prof. Wm. H. Thomson repeatedly urging upon us his opinion that a combination of adequate remedies will act better than any single one given in large doses, and following his advice later in my general practice I believe I reached my ends better and drugged my patients less, because by combining remedies each is given in smaller doses, especially when narcotics or

**WHAT HO! is a very old way of attracting attention. But——**

We have a very interesting proposition to make to physicians on the subject of Silk Hat Rye and Bourbon Whiskey.

It is a dividend paying proposition; one which requires very little money on long time. Write to us for particulars. This proposition is only open for thirty days. It will certainly hold your attention and be well worth your while to investigate. Don't delay but write at once to the

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other poisons are in question. It was with a twofold feeling that I met a new remedy, or rather a preparation which is a combination of remedies, destined for the treatment of disease of the respiratory tract. I always had misgivings toward new preparations; but as this preparation, Glyco-heroin, seemed to me in no sense a patent medicine, having the contents open before the medical profession, I thought it worthy of trial. The combination which makes up the Glyco-heroin should appeal to any one who is treating patients afflicted with pulmonary and laryngeal diseases. The composition of Glyco-heroin is in our opinion quite a happy one. Each teaspoonful contains 1-16 grain of heroin, quite a small dose; hyoscyamus, 1 grain, an adequate addition, as it checks night sweats and acts favorably upon reflexes; ammonium hyophosphite, 3 grains, which is an excellent stimulating expectorant without producing nausea; white pine bark (a tonic and a slight antipyretic), with balsam tolu, glycerin, and aromatics. A teaspoonful of this preparation I found to be a definite dose, the effects of which lasted for three to four rours. Two weeks' trial on six patients convinced me of its utility and superiority over heroin and heroin hydrochlorate, administered *per se*.

My clinical observations in sanitarium treatment of pulmonary and laryngeal diseases cover fifty cases, treated in the course of twelve months.

We do not deem it necessary to tire the reader with reports of cases in more detail, but we beg to convey our impression that since we started to administer Glyco-heroin to our patients as a routine, directing them to take a teaspoonful at bedtime and during the day as occasion required—severe cases should take a teaspoonful every two or three hours—a decided improvement in the general well-being of all was felt. In the course of a few weeks one would hardly believe it was an institution for or the abode of consumptives, whose business is, so to say, to cough. In the stillness of the night one could hardly

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CEREAL DENTIFRICE.
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discern any hack or even loose cough, and it convinced us that our patients were enjoying a peaceful and refreshing sleep. It is quite grateful to note that after one week's systematic administration of this remedy, in conjunction with outdoor life, pulmonary exercises, and good dieting, the cough, pain in the chest, pleuritic pains, and dyspnea are considerably ameliorated and night sweats entirely disappear.—HENRY LEVIEN, M.D., medical director and physician-in-charge of the Liberty Sanitarium, Liberty, N. Y., in the *Buffalo Medical Journal*, September, 1901.

---

GLYCO-THYMOLINE IN OBSTETRICS.—Just a word of suggestion to obstetricians regarding the offensive odor accompanying the lochial discharge after confinement, of which patients so frequently complain, and which no permissible amount of douching removes or eliminates.

Three ounces of Glyco-Thymoline in one quart of water, used as a douche, once a day, will absolutely remove the odor and wonderfully increase the comfort of the patient.

No tingling nor smarting sensation follows its use, and it is as efficient an antiseptic as any, without the objectionable features of nearly all others.

I have used it in many cases, and would as soon think of attending a case minus my satchel of necessaries as to go without Glyco-Thymoline.—H. PLYMPTON, M.D., Brooklyn, N. Y.

H. O. Bates, M.D., Chicago, Ill., states: "Have been and am using Glyco-Thymoline in my obstetrical practice for intrauterine irrigation, vaginal douche, diluting and bathing child's eyes, and washing infant's mouth—no obstetrician should go without it. I order people, nurses, and attendants to keep it in the house and use it for antispetic work."

T. R. Maxfield, M.D., 346 9th Street, Brooklyn, N. Y., states: "Have been using Glyco-Thymoline for years. For the past two years my favorite use has

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been in obstetrical work. I never go to a case without a two-ounce bottle of it in my grip, although I usually order in advance for general washing. I have formed the practice of giving an intra-uterine douche of Glyco-Thymoline in each case. This thoroughly cleanses the organ of membrane, fragments of placenta, etc., and reduces all danger of infection to the minimum. Hemorrhage (secondary) or fever is almost out of the question."

---

THE ACTION OF DIGITOXIN.—Dr. F. Curioni (*La Clin. Med. Ital.*, 1901, No. 11) instituted experiments with digitoxin Merck at the Turin Medical Clinic, and he reports the following results: In cases of pronounced cardiac insufficiency digitoxin produces not only an improvement in the pulse, but also an increase in the arterial blood-pressure. The maximum effect becomes apparent four to five hours after the administration. In reference to the dosage, the individual tolerance must first be ascertained, and it is therefore best to commence with 1-120 grain (½ milligramme). Such doses remove the dicrotism, make the pulse full and strong, and prolong the diastole. Doses of 1-80 grain also raise the blood-pressure. In severe chronic disease of the heart muscle, where drug habituation usually exists, doses of 1-60 grain may be used with good effect. The advantages which digitoxin possesses over digitalis are its greater efficiency and greater promptitude of action.

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W. IRVING HYSLOP, M.D., 4408 Chestnut Street, West Philadelphia, Pa., says: "I have used Celerina quite largely both in private and hospital practice, and with gratifying results. It is void of repugnant taste and is readily retained by the stomach. My experience with Celerina has been confined chiefly to its use in nervous diseases, particularly loss of nerve power, and the opium habit, in which conditions it has served me well, and I shall continue to prescribe it both in private and hospital practice."

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WANTED.—Second-hand surgical instruments and operating-room supplies, Cleveland table preferred. All must be in good condition. Address "Surgical," care Journal.

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A SPLENDID opportunity for a good German physician. For particulars address W. H. Kinsley & Co., Manistee, Michigan.

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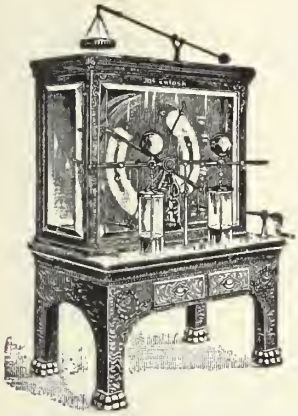

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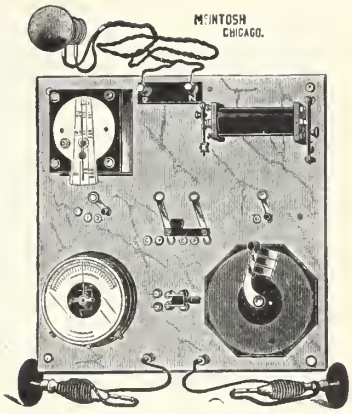

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our Creosote-Formalin-Iodin Compound, as an inhalant, has given remarkable results. An almost certain cure in first and second stages. Bottle containing one month's supply, $1.00. Three inhalers and three bottles Compound, $10.00. Circulars upon request.

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THE PHYSICIAN'S NEGLECT.—As an adjunct to his professional business the physician in general practice would find a technical knowledge of optics or the art of fitting spectacles a very valuable acquisition. This one branch of his profession which might yield him the greatest income with least effort is neglected. Any physician could acquire the proper knowledge of the art of optometry in a very short time without leaving his home or neglecting his practice in any way. There is a college in Chicago called the Golden Cross Eye, Ear, Nose, and Throat, College and Clinic, 257 W. Madison street, that teaches the art *by correspondence* for a very nominal fee. A letter of inquiry will bring full particulars.

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ANASARCIN.—"A remedy for the speedy relief and cure of all forms of dropsy, due to disease of the heart, kidneys or liver; the most powerful agent known for the relief of valvular disease of the heart, even after the stage of compensation has long passed, far surpassing in this respect digitalis, strophanthus and drugs of that class; an unrivaled heart tonic in all forms of neurasthenia; an active eliminator of uric acid in rheumatism and allied diseases, and a resolvent of visceral engorgements due to capillary congestion in the kidneys, liver and other abdominal organs"—these are some of the claims made for Anasarcin. Broad

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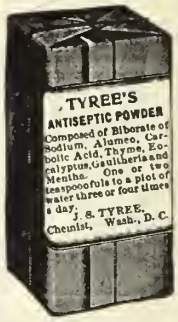
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A powder, very inexpensive, which, when dissolved in water, makes a pleasant, non-irritating, non-poisonous lotion, not staining the linen, and which has a

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against those peculiar pathogenic germs which infest the genito-urinary organs (male as well as female); hence is a never-failing remedy for

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If intelligently used according to directions, it will CURE all cases, including the acute cases and the stubborn chronic ones as well.

Also very effective in Pruritus of the genital regions. The formula is given, and the preparation is advertised in a strictly ethical way to the medical profession only.

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claims, surely, yet they seem to be amply substantiated by testamentary evidence of many well-known physicians in various parts of the country, whose letters on the subject have been given publicity.

Anasarcin is a combination of the active principles of oxydendron arboreum, sambucus canadensis and urginea scilla, and is both a heart tonic and a sedative. It is said to accomplish what no other known agent has been able to effect. In those diseases which tend to destroy the physiological balance between the arterial and venous systems, whether the origin be in the heart, kidneys or liver, its action is declared to be prompt and positive. Extraordinary results are reported from its use in dropsical affections.

Anasarcin is prepared in tablet and elixir forms. It is strictly an ethical preparation, and is sold only to physicians. Its manufacturers, the Anasarcin Chemical Company, Winchester, Tenn., offer to send to any member of the profession, prepaid, upon request, a sample box of Anasarcin Tablets—an offer of which our physician friends are advised to take advantage.

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Dr. Hugo Weber, of St. Johann-Saarbrücken, writes in *Medico* (Berlin, Sept. 4, 1901) "On the Treatment of Tuberculosis of the Lungs by Means of Carbolic Acid," and shows that all the recognized methods of handling the disease are finally dependent upon it. Besides the various nutrient and therapeutic measures which he recommends, he lays especial stress upon increasing carbonic acid production by the administration of Levulose, which is oxidized in the body much more completely than any other sugar, and hence is well borne by diabetic patients also. He administers a heaping tablespoonful of Schering's preparation four times daily. And since Levulose is a nutriment rather than a medicine, it does not

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matter whether it is taken before or after eating, or with the food and drink. The classical investigations of L. von Alder and Clemm (*Therapeutische Monatshefte,* August, 1901) have shown that fruit sugar or Levulose increases the amount of gastric juice, whilst diminishing its acidity; hence it is not only a most excellent nutriment, but actually aids and stimulates digestion. No wonder, he says, that he has been able to cure a whole series of cases in the initial stage of phthisis pulmonum with this medication alone. In advanced cases of tuberculosis, where cavitation had occurred, Levulose or the production of carbonic acid by any ordinary means alone was not sufficient, and Weber employed hypodermic injections of chemically pure liquid paraffine, with the idea that the hydrocarbon, when absorbed by the body, would be converted into carbonic acid and water. By this combined process, Levulose internally and paraffine injections, he has been enabled to cure patients in advanced stages of tuberculosis, such as are often met with in ordinary practice. Out of the fifty-two cases which were reported in the March number of the *Therapeutische Monatshefte,* of this year, he has cured thirty-two, fourteen are considerably improved, and only six have died.

MILLER has shown that "all forms of dental caries are but expressions of bacterial invasion of the solid structures of the teeth, and that such invasions may extend far beyond the confines of the teeth alone and produce possibly fatal mischief." "Vegetol" is designed to purify the mouth and prevent these invasions. For sample and literature address Vegetol Co., 11 E. 7th street, Cincinnati, O.

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"Please accept thanks for your kindness in hurrying the last two outfits. The patients are doing nicely and will *both get well.*"

"I have one or two extraordinary testimonials to the value of your treatment, one a case of incipient tuberculosis—cough gone, weight increased, energy restored."

"Please send me two Perfection Inhalers at once. I am needing them for immediate use. The half dozen purchased of you are in use daily with much satisfaction to myself and benefit to my patients."

"I have used your inhalation treatment in more than thirty cases of diseases of the respiratory organs, principally in-

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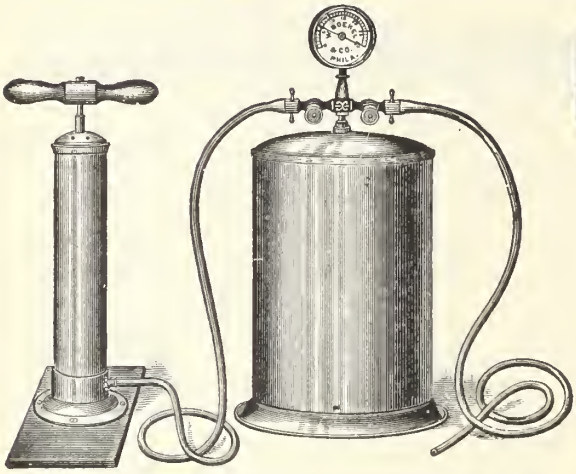

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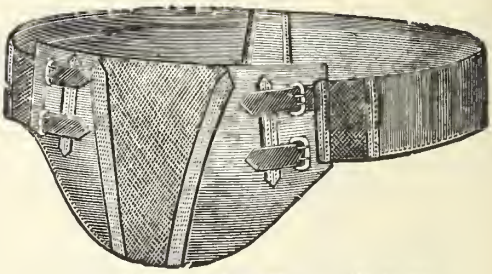
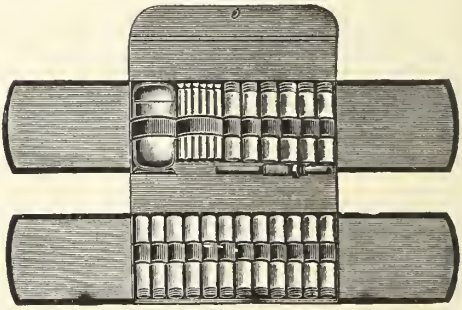


Silk Elastic Abdominal Supporter, $3.00 Post-paid.
Give measurement around largest part of abdomen.



The Handsomest and most Practical Pocket Vial Case Made.

It contains six 4 dr., twelve 2 dr. screw cap vials, also twelve tubes for Hypo. Tablets, each tube capable of holding twenty-five tablets. One antiseptic, solid piston Hypo. Syringe, with two needles in metal case, also a self-registering Clinical Thermometer with Indestructible Index, and pocket for powder papers, etc.
Price complete, $5.00. Without Hypo. Syringe and Thermometer, $2.75


cipient tuberculous infection, and all are either entirely recovered or sufficiently improved to justify a favorable prognosis."—D. V. McConnaughey, M.D., Hillsboro, Ohio.

B. F. Teters, M.D., Middlebury, Ind., says, in ordering more of the Creosote-Formalin-Iodin Compound: "I have used your Inhaler with quite satisfactory results."

George D. Crandal, surgeon in charge Cottage State Hospital, Pa., says: "I am using your Inhalant Compound on a patient out of town and am sure that he is improving under the treatment."

M. S. Pixley, M.D., Portsmouth, Ohio, reports favorable results from one month's use of the Inhalant Compound in a case of tuberculosis.

C. H. Myers, M.D.—Dear Doctor: I wish to offer my endorsement of your "Perfection Inhaler." I have always been favorably impressed with the theory of treating pulmonary diseases by the use of medicated inhalations. The success of the "Perfection Inhaler," with your excellent formula for an inhalant, is a practical demonstration of the correctness of this theory of cure. I am using your Inhaler in my practice, and I am greatly pleased with its success in a case in my own family. You are at liberty to use my name for reference, or to publish my endorsement of your inhaler.

Yours truly,

J. M. Partridge, A.M., M.D.,
*Ex-Member Indiana State Board of Health.*

The following are reports by Dr. C. H. Myers:

*Case 1.*—Consumption, bacilli present. Mrs. B——, aged thirty-seven, blonde, delicate constitution, ill health more than a year, cough, expectoration profuse; since January, 1899, chills, morning temperature 101°, night 104.5°, profuse night sweats, loss of appetite, general emaciation, pulse 130 to 140, respiration 40. In fact, she had all the symptoms of second

Vegetol
CEREAL DENTIFRICE.
FOR
SOLD BY DRUGGISTS.

Sterilizing the Mouth, Teeth and Tongue.

BAD BREATH.

Removing the Bad Taste of Medicines.

The number of **teeth lost** by disease of the gums and alveolar process is probably greater than that lost by decay. Could deposits about the teeth be absolutely prevented there would be no pyorrhea alveolaris. "Vegetol" can be safely used as often as desired to prevent these deposits. It neutralizes the acids of decay and arrests fermentation in the mouth.

THE VEGETOL COMPANY,
11 E. Seventh St., CINCINNATI, O.

Send for sample, also booklet on the subject, containing formula.

stage. On April 30, 1899, was called to see her and found the above condition, which had according to history existed the greater part of three months previous. Began second day with inhalations of Creosote, Iodine, and Drosera tinct., later changing to Creosote-Formalin-Iodin Compound. In two weeks temperature became normal, pulse 90 to 96, respiration 30, cough and expectoration reduced one-half. At the end of six weeks, pulse reduced to 80, cough ceased. Later pulse 72.

*Case 3.*—Mrs. S——, aged fifty-two, chronic rhinitis, nasal and throat membrane irritated, with usual dull pain in head, slight irritative cough, also gastric catarrh with general malaise, despondency, inclined to give up hope of recovery. She was, after examination, put upon the inhalation treatment with the following formula: Carbolic acid, iodine, and sanguinaria. In two weeks all the symptoms had disappeared; she even declared herself recovered, but under advice continued the inhalation for a month more, at less frequent intervals. Eighteen months have now elapsed without returning symptoms.

*Case 4.*—Mrs. V——, aged sixty-five, catarrh for years past, all the symptoms of Case 3, with indigestion, headache, and sneezing upon exposure to cold or dust. Benefited beyond all expectations in two months by use of carbolic acid, hamamelis and iodine.

---

SANMETTO IN GENITO-URINARY DISEASES.—Dr. B. G. Inman, of Bradford, Ohio, writing, says: "I have used Sanmetto and find that it is all that one could desire in the treatment of urinary diseases. With an experience of thirty-eight years of practice I know of no medicine that is more direct in its action in all cases of senile prostatitis and other genito-urinary diseases. I regard Sanmetto as one of our best vitalizing tonics to the reproductive organs, which gives it a wide range of usefulness in the treatment of many nervous troubles."

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FOR SALE.—Wishing to retire from practice I will offer my home for sale, and will introduce purchaser to a good practice. Value of place about $3,000. Address Dr. Chas. Russell, Allegan, Mich.

FOR SALE.—Unopposed paying location in Southern Indiana, pike roads, fine farming country, German settlement and exceptionally good pay. Your own price with half down—say $500 for entire property. Reasons—Hospital Appointment. Address, Doctor, No. 182 Macon St., Brooklyn, New York City.

FOR SALE.—$2500 practice in Southern Illinois. Terms $500 cash. Address, B. A. J., Medical Age

FOR SALE.—Stock of books, instruments, furniture, and medicines, invoicing respectively at $150, $100, $75, $125; Neat office, has been occupied by physicians for 22 years. Population of the town is 2250. Only two regular practicing physicians. Reasons for selling, going east to take up surgery. Will sell for cash before March 1st for $450, which will include right to occupy office and an introduction. Practice amounts to $150 per month. Address, Lock Box 395, Harper, Kans.

WANTED.—Practice in Michigan or New York only. Give full details, price, competition, fees, character of country, and pay, in first letter. Address Box 80, South Haven, Mich.

FOR SALE.—My practice and property in the thriving village of Weedsport, N. Y. Practice from $2500 to $3500, with good collections; fine farming country and good roads. Property consists of fine residence, large lot and barn, located in the center of the village. Business position very desirable for a physician. Practice thrown in to purchaser of property. Good chance for right man. Best of reasons for wishing to sell. Address R. D. Nellis, M.D., Weedsport, N. Y.

A CATHOLIC physician (or a German) with $300 or $400 cash can learn of an excellent location by addressing "Ohio," care Excelsior and Lumber Co., Jackson Center, Ohio.

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DOCTOR.—If you are qualified to practice medicine in Minnesota, and want a splendid location, and have about $800 to buy details in the shape of drugs, we can give you the article. Only those who want, and have, need answer this. Address Doctor, care Noyes Bros. & Cutler, St. Paul, Minn. 12

FOR SALE.—Good cash office practice, price $2200. Incumbent wishes to retire. Many hundreds of dollars worth of instruments, apparatus, office furniture, etc. The opportunity of a lifetime for an exclusively cash office practice. "Doctor," L. Box 641, Wichita, Kans.

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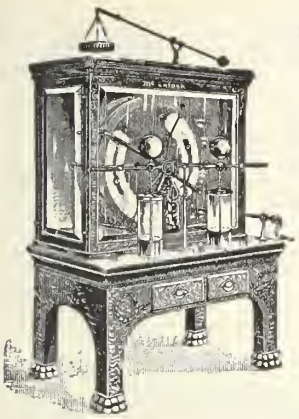

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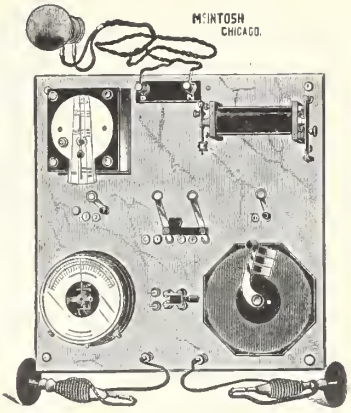


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SUCCESS WELL WON.—Frank S. Betz & Co., of Chicago, make static machines and one thousand other implements and instruments for physicians. Less than six years ago this enterprising firm started in business practically without visible assets. Their first month's business amounted to $64.00. To-day they are among the best-

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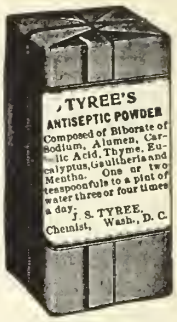
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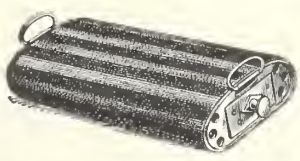

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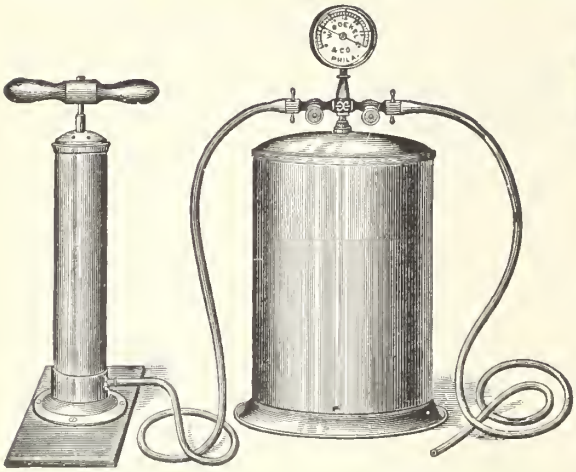

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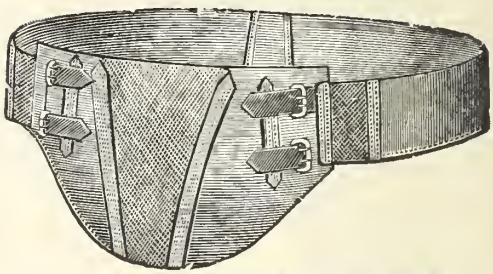

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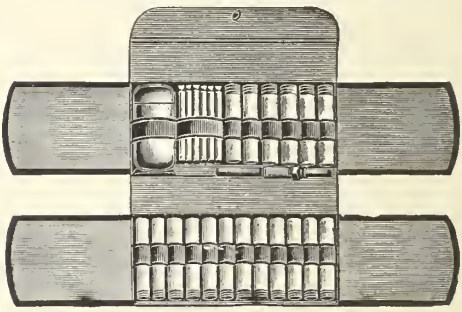
Give measurement around largest part of abdomen.



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It contains six 4 dr., twelve 2 dr. screw cap vials, also twelve tubes for Hypo. Tablets, each tube capable of holding twenty-five tablets. One antiseptic, solid piston Hypo. Syringe, with two needles in metal case, also a self-registering Clinical Thermometer with Indestructible Index, and pocket for powder papers, etc.
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Result of "Absent Treatment."—A young woman, who is a so-called Christian Scientist, had observed with a growing pity a cripple who passed her house daily. His efforts to walk were so evidently painful that she determined to try the "absent treatment" on him. After the first few days of her self-imposed task she thought she noticed signs of improvement, and one day he appeared without his crutch and walked with hardly a limp. She was so overjoyed that she rushed to the street, seized the man's hand, and said: "My dear friend, you must excuse me, but I cannot refrain from rejoicing with you over your cure. I have used faithfully the 'absent treatment' for your infirmity, and I cannot tell you how happy I am to see by your walk that you have recovered." When the man rallied from the bewildering effect of this sudden outburst of "present treatment" he replied: "Thank ye kindly, ma'am, for your interest in me. I don't suppose it has hurt me any. But I may as well say I have just got from A. A. Marks a new wooden leg with rubber foot, and it works splendid, ma'am. The other old wood-foot-thing always did make me limp."—*American Homeopathist.*

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NOWADAYS it is well for professional men to be competent business men also, and to be thoroughly in touch with bookkeeping ideas, and business plans of all kinds. In this connection it gives us pleasure to recommend "The American Business and Accounting Encyclopædia." This is undoubtedly the greatest work on accounting ever published. It contains 1,100 pages of new and improved methods, and over 800 illustrations of special forms. Labor-saving bookkeeping methods of all kinds are here clearly shown and represented. Every physician who is making a careful study of bookkeeping methods will find this book of invaluable service. Write for a descriptive circular. The Bookkeeper Publishing Co., Ltd., 629 Campau Building, Detroit, Mich.

MELLIN'S FOOD BISCUITS are not medicated, nor are they to be employed in medicinal doses; they are to be eaten as food by children after the weaning period, and by adults who require a concentrated and easily digestible form of nutriment. As such they may be used in any quantity to suit the requirements of the individual. Mellin's Food Biscuits contain a large percentage of the well known Mellin's Food. They have been prepared to meet the demand for a solid yet easily digested and highly nutritious food. For young children and adults suffering from digestive derangements, they will be found of the

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against those peculiar pathogenic germs which infest the genito-urinary organs (male as well as female); hence is a never-failing remedy for

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Composed of Biborate of Sodium, Alumen, Carbolic Acid, Thyme, Eucalyptus, Gaultheria and Mentha. One or two teaspoonfuls to a pint of water three or four times a day;
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If intelligently used according to directions, it will CURE all cases, including the acute cases and the stubborn chronic ones as well.

Also very effective in Pruritus of the genital regions. The formula is given, and the preparation is advertised in a strictly ethical way to the medical profession only.

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greatest use, as a maximum amount of the nurtitive matter is obtained at a minimum labor of the digestive organs.

Send for a sample of Mellin's Food Biscuits to Mellin's Food Company, Boston, Mass.

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In an article appearing in the *Journal of the American Medical Association* of January 25, 1902, by Dr. Geo. V. I. Brown, of Milwaukee, entitled "Surgical Correction of Malformation and Speech Defects Due to or Associated with Harelip and Cleft Palate," particular attention is called to the value of Dioxogen for oral surgical work.

Wounds of the mouth are always in greater or less degree subject to infection from the bacteria-laden buccal fluids as well as the nasal secretions, both of which are in direct communication without the possibility of protection by any form of dressing. The necessity of using an effective and harmless germicide is emphasized because of the unavoidable dilution in the mouth and the impossibility of preventing its being swallowed.

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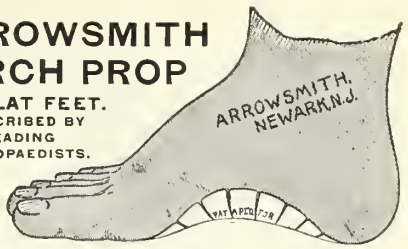


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A POWERFUL DIURETIC.—Although the materia medica abounds in drugs having a diuretic action, but few of them can be considered pure diuretics, the majority producing their effect in an indirect manner. Among the pure diuretics theobromine has been extensively employed in late years in the form of the salicylate. This preparation, however, is not free from irritating effect upon the gastrointestinal tract, owing to the contained salicylic acid, and for this reason Dr. Impens, of Brussels, after considerable experimentation succeeded in producing a double salt of theobromine sodium and acetate of sodium, to which the name Agurin has been given. This preparation has been made the subject of extensive clinical studies in the clinics of Professors von Litten of Berlin, Destree of Brussels, Buchwald of Breslau, and von Ziemssen of Munich. The results of these tests have shown that in the dropsy of cardiac disease Agurin is a prompt and reliable diuretic, free from any irritating effects upon the digestive organs or kidneys, while in some cases of ascites due to cirrhosis of the liver, and in cases of edema from chronic interstitial nephritis, without marked destruction of the renal epithelium, the drug acted efficiently. The diuretic value of Agurin is further confirmed by some conclusions presented by

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Send for sample, also booklet on the subject, containing formula.

Dr. A. C. Barnes (*Medical Record,* May 24, 1902) in a discussion before the American Therapeutic Society, according to which the acetates form double salts with theobromine which are soluble and are powerful diuretics, of which Agurin is a type.

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Report of Case of Acute Pneumonitis Treated with Thermol.—D. A. R., female, aged forty, mother of three living children. Two brothers died from pneumonia. Had not felt well for several days, and at 10 A.M., November 26, she had quite a heavy rigor. Her temperature was 104.5°; pulse 140, of a hard bounding resisting nature; respiration 36. There was intense localized pain over and around the right nipple and near the center of right scapula. I ordered an aperient cathartic and flushed her kidneys with a mixture of potassium acetate and tincture digitalis, along with cold compresses over the right chest. At 7 P.M. her temperature was 106°, pulse 140, respiration 44. Gave her 15 grains of thermol, to be followed by three-grain doses every two hours. Under the influence of thermol she gradually improved, and by November 30 there was an abundance of the characteristic reddish brick-dust colored sputum along with well marked physical and objective symptoms of pneumonia. A chemical examination of the urine revealed a trace of albumin and 6 per cent in volume of sugar. This was the first evidence this patient ever had that she was a subject of diabetes. At 10 A.M., December 2, her condition was eminently satisfactory. The right lung was rapidly clearing up and resolution progressing. At noon a band passing the house was the cause of doors being left open and a strong draught forcing its way through the room, making its exit through the space caused by the upper sash being slightly lowered for ventilation. That evening at 6 the patient had an intense rigor, and a temperature of 105.5°, pulse 140, respiration 43; a 15-grain dose of thermol along with a hypodermic injection of sparteine and strych-

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nine nitrate was administered. By midnight the temperature had fallen to 102°. Auscultation and percussion revealed the upper lobe of the left lung well congested and exudation rapidly taking place. By 8 A.M. of the 3d her temperature was 101°, but rose by 7 P.M. to 104°. Under the use of four grains of thermol every two hours it soon fell to 100°. The dose was gradually reduced, and by the 10th the morning and evening temperature was normal.—DR. J. B. KELL, Limaville, Ohio.

---

ABBOTT'S SALINE LAXATIVE is a superior preparation. I don't believe there is anything better in the market. In my obstetrical practice it is O. K. I can recommend it highly.—C. M. H. WRIGHT, M.D., Blaine, Ill.

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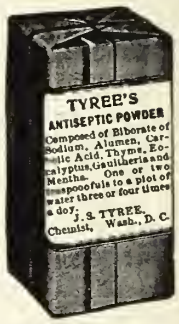
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can do, however, is to restore the features and overcome the repugnant look which the loss of the central feature of the face occasions. The improvement in some cases is fairly startling, and the artificial part hardly noticeable, if due care is taken in the skilful use of cosmetics.—G. J. De Garmo, 110 E. 23d street, New York.

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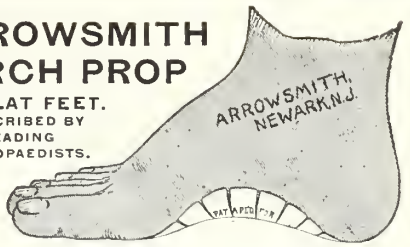


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chloride solution was used, but with no abatement of pain, and the inflammation was again most rapidly assuming control. A second resort to Antiphlogistine was then decided upon with most happy results. The arm again under this treatment assumed its normal condition and all traces of the virus disappeared.—*International Journal of Surgery,* May, 1902.

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HYSTERECTOMY FOR CANCER OF UTERUS.—Mrs. T——, age forty-seven. American. Diagnosis, carcinoma of uterus. Entered hospital October 10 1901, in a greatly run-down condition. She was put on an absolute Bovinine diet until October 14, when at one o'clock she was given a high rectal injection of Bovinine and salt solution, three ounces of each, and at two o'clock, under ether anesthesia, I performed an abdominal hysterectomy. Just before the uterus was detached from the vaginal wall the patient showed considerable shock, and consequently the nurse was ordered to give her another high rectal injection of Bovinine and salt solution, two ounces each. She responded to this beautifully. The operation was completed by the closure of the abdominal wound, the pelvis being drained through the vagina. Patient was put to bed with the pulse weak and 112. She was given another high rectal injection of Bovinine and salt solution, three ounces of each. In twenty-five minutes she was conscious, pulse greatly improved, being 100, and full in character. No nausea, thirst, or vomiting. The second day the vaginal drain was removed, the wound and the vagina treated by injections of Bovinine pure, employed t. i. d. Previous

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to every injection of Bovinine into the vagina the cavity was washed out with borax solution. These injections were continued three times a day up to October 16, when twice in twenty-four hours was deemed sufficient. She was now allowed a light general diet together with Bovinine. October 24 the stitches were removed and the abdominal wound found to be healed. From this time on her recovery was uninterrupted, and she was discharged cured November 16.—T. J. Biggs, M.D., Sound View Hospital, Stamford, Conn.

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In many cases of malaria there is left, after the subsidence of the acute attacks, a condition of chronic impairment of health, which is commonly known as malarial cachexia. The symptoms present in this condition differ greatly in character and in severity according to the organ or organs that are chiefly affected. Usually the patients suffer from more or less disturbance of the gastrointestinal tract and liver, as evidenced by indigestion, nausea, constipation or diarrhea, sallowness of the skin, or distinct jaundice. They feel weak and languid, and may be troubled with headache and neuralgias of various types. There is generally more or less enlargement of the spleen, and in severe cases this may be enormous. Common to all cases of malarial cachexia is the development of a more or less profound alteration of the blood with a destruction of the red blood corpuscles and pigmentary deposits in various organs. In some instances, however, the symptoms of chronic malarial poisoning are so indefinite that its existence can be determined only from the history of previous acute attacks.

It is a matter of common observation that in these chronic cases, unlike in the acute form, quinine is not a specific, and that its action must be supplemented by that of other remedies in order to obtain the best results. Among these arsenic is the most prominent, and has been extensively employed. Its virtues have been

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known since the beginning of the eighteenth century, and since then it has been recommended by many of the greatest authorities. The administration of arsenic has been found to diminish the engorgement of the spleen, and to act favorably upon the jaundice and gastrointestinal disorders of malaria. Added to this is its beneficial influence upon the nervous system.

To derive the best results from arsenic in chronic malarial cases it is generally advised that it be combined with iron. This combination is perfectly logical, since in all these cases more or less marked anemia exists and demands treatment.

Arsenic, iron, and quinine may therefore be said to constitute the three most prominent remedies for the cure of chronic malarial poisoning. In the preparation presented here under the name of Hemoquinine, these drugs are associated in such form that they will not only exhibit to the fullest extent their therapeutic properties, but will be tolerated by the most sensitive digestive organs. Iron in the form of the peptonate is readily absorbed and assimilated, and to enhance its efficiency manganese has been added. The quinine and arsenic are present in a state of perfect solution and in fixed quantities.

After what has been stated above it is only necessary to say that Hemoquinine will be found of distinct value in that large class of malarial cases in which, although the acute attacks have vanished, the patients continue to suffer from the many sequelæ of the disease, and remain in a condition of chronic ill-health.

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plied a dry dressing and turned him loose. Directed him to call at office on second day. Did not show up for nearly a week and then that arm was a sight to make a surgeon of the fourth class weep.

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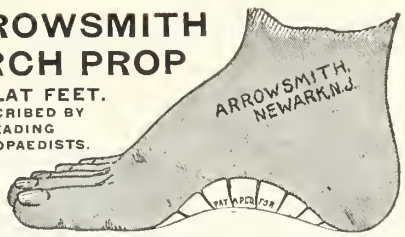


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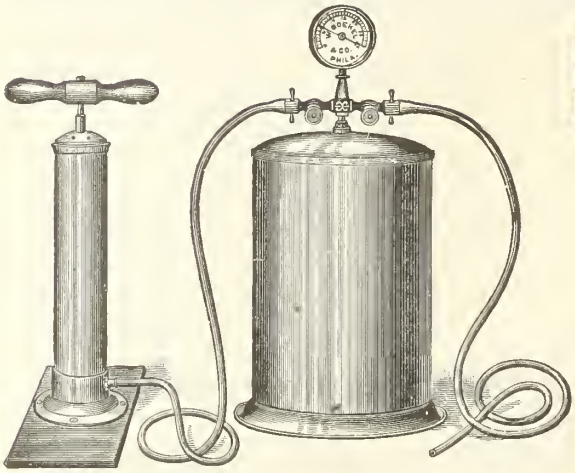

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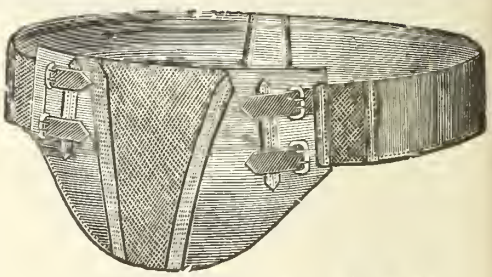

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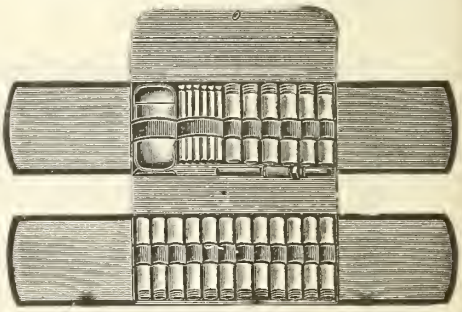

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*Case 3.*—George W., aged 27, typesetter. Has not felt well for the past year. Is badly constipated, has a feeling of lassitude, headache most of the time. Poor appetite, tongue flabby, pale, and thickly coated. Blood count 2,600,000 to one centimeter. Four weeks of treatment with Gude's Pepto-Mangan has caused a marked improvement in his condition. He feels much stronger and can do his work without the fatigue formerly experienced. The appetite is much improved, and his tongue is clear. Blood count now shows 3,600,000 red corpuscles to one centimeter.

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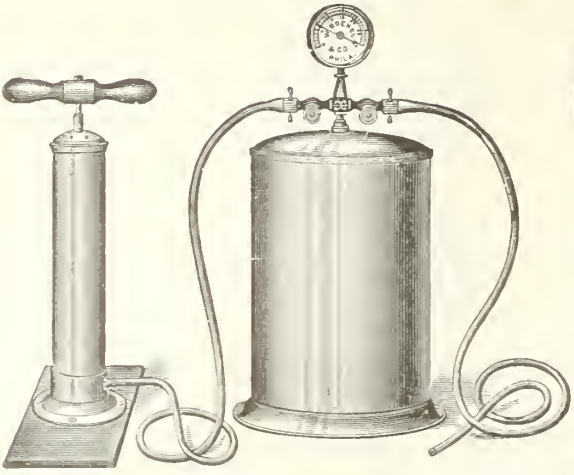

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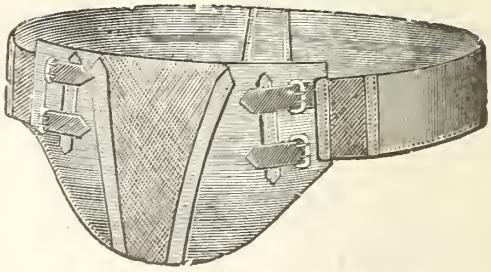

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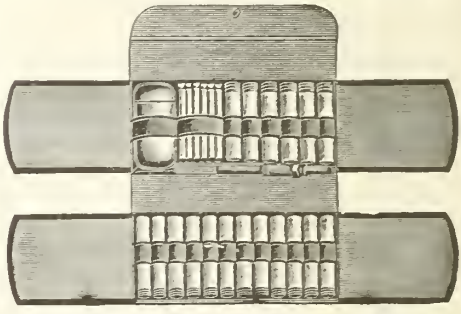

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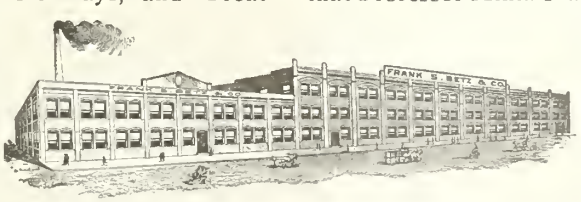


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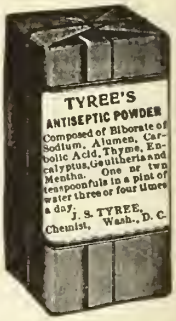
DOCTOR!—Please read the following concerning the proper administration of Anasarcin:

In anasarca, the result of either heart or kidney trouble, one or one and a half tablets three times a day, with a dose of Epsom salts every other morning before breakfast, will usually be sufficient to speedily reduce the effusion. In obstinate cases of ascites it will sometimes be necessary to give as directed for extreme cases in the literature accompanying the medicine, and to which we would direct attention.

This latter plan of administering Anasarcin should not be resorted to until the other way has been tried, and found wanting. But administered in one or the other ways here mentioned, always followed with salts, as mentioned above, we have no hesitancy in asserting that any case of dropsy (except ovarian) can be relieved. In cases of valvular heart trouble and in Bright's disease where there is increased frequency of the pulse, it will be necessary to give Anasarcin in reduced doses (after relief of the dropsy), just sufficient to maintain the pulse at a rate a little below normal for months if need be. This can be done without detriment to the patient, but on the contrary with benefit, and this can be said of no other drug known to the profession. Indeed, it is absolutely necessary that this condition of the circulation should be maintained for a long period of time in cases of valvular heart trouble or Bright's disease, that the diseased organs may have rest and the chance of restoration to their normal functions. One tablet three times a day will nauseate some patients, while others can take one and a half or two without nausea. In dropsical conditions it is necessary to give a sufficient amount to control the circulation until the dropsy is reduced, even if it does cause nausea, when it may be reduced in quantity and continued in doses sufficient, yet short of producing nausea.

In nearly all cases of Bright's disease there is hypertrophy of the heart, consequently increased frequency and tension of the pulse.

# Doctor, Does this Interest You?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Composed of Biborate of Sodium, Alumen, Carbolic Acid, Thyme, Eucalyptus, Gaultheria and Mentha. One or two teaspoonfuls in a pint of water three or four times a day.
J. S. TYREE, Chemist, Wash., D. C.

A powder, very inexpensive, which, when dissolved in water, makes a pleasant, non-irritating, non-poisonous lotion, not staining the linen, and which has a

## SPECIFIC ACTION

against those peculiar pathogenic germs which infest the genito-urinary organs (male as well as female); hence is a never-failing remedy for

## LEUCORRHEA, GONORRHEA and GLEET

If intelligently used according to directions, it will CURE all cases, including the acute cases and the stubborn chronic ones as well.

Also very effective in Pruritus of the genital regions. The formula is given, and the preparation is advertised in a strictly ethical way to the medical profession only.

A 2-oz. box of Pulv. Antiseptic Comp. (enough to make two gallons of antiseptic lotion) will be sent, once only, for 10 cents, if you mention this journal. (This would make about seven dollars' worth of the usual bottled antiseptic solutions.)

**This is all pure capital—you pay for no water.**
**You can take it with you—no liquids to carry.**

# J. S. TYREE, Chemist, WASHINGTON, D. C.


Because of this complication in Bright's disease we have in Anasarcin Tablets and Anasarcin Elixir a treatment for this malady far surpassing anything hitherto offered to the profession. The Elixir is a most potent adjuvant to the tablets in this condition, the tablets controlling the circulation, thereby relieving kidney congestion, while the Elixir increases the diuretic action of the tablets, and besides exerts a restorative effect on the kidneys (due mainly to the hepatica which it contains) possessed by few known remedies. Also in the condition of plethora incident to pregnancy, where there is beginning dropsy of the extremities, scanty excretion from the kidneys, occasional darting pains through the head — in a word, a train of symptoms clearly foreshadowing convulsions. In such conditions the doctor is often at his wit's end to know what to do. We can with the utmost confidence recommend Anasarcin Tablets and Elixir in such cases, and though you may fail to obtain any controlling influence on the pulse in such conditions, nevertheless one tablet three times a day, with a tablespoonful of the Elixir every two hours through the day and a dose of Epsom salts every other day, will tide the patient safely through In the failing heart of typhoid fever, septicemia, or any other disease in which it is necessary to sustain the heart's action, one tablet every four to six hours will be found superior to strychnia, digitalis, or anything else. In any case of dropsy where the tablets fail to increase the action of the kidneys, the Elixir should be given in connection therewith, a tablespoonful every two hours through the day. We have endeavored to set forth, as briefly as possible, the proper administration of Anasarcin and the various conditions in which it is indicated; not dealing in speculation, but facts proven by clinical trial; yet doubtless there is much to be learned of its uses not here stated, and we trust that physicians using it will notify us of anything new discovered concerning its effects.

---

Blood for Babies —In the course of the second year there comes a time when the milk diet begins to be insufficient for the growing child, and nature calls for a change, while yet the system is in many cases unprepared for solid food. This kind of deadlock results in diarrhea or constipation, anemia, restlessness, fretfulness, etc. In such cases the fit and radical remedy will be found in the administration of say ten drops of Bovinine in a little milk at intervals of three hours.

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PRIVATE VILLA FOR NERVOUS AND MENTAL DISORDERS, ALCOHOLISM, TOBACCO AND DRUG HABITUATION.

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**SANMETTO** FOR GENITO-URINARY DISEASES.

A Scientific Blending of True Santal and Saw Palmetto in a Pleasant Aromatic Vehicle.

A Vitalizing Tonic to the Reproductive System.

SPECIALLY VALUABLE IN
PROSTATIC TROUBLES OF OLD MEN—IRRITABLE BLADDER—CYSTITIS—URETHRITIS—PRE-SENILITY.

DOSE:—One Teaspoonful Four Times a Day.

OD CHEM. CO., NEW YORK.


Little Robert Valverdie, a patient who came under my care in the condition of malnutrition above described (after trying all the usual medical helps with no benefit), was immediately restored by the direct blood treatment. On the second day of taking Bovinine, the constipation and other trouble began to be relieved, and on the third day all signs of ill health had disappeared as if by magic. This simple treatment was continued for three weeks, the child thriving beautifully.—Case reported by DR. T. J. BIGGS.

---

TWO OLD FRIENDS.—We have received some five grain Antikamnia Tablets, and also tablets of this drug combined with Codeine. Antikamnia, as its name implies, is an analgesic and anodyne, and it has gained much favor in the United States both for this and for its antipyretic action. It has been proven not to depress the heart, after the manner of many other coal-tar preparations. Each Antikamnia Tablet contains 5 grains of the drug (the usual dose), which can be repeated every fifteen or twenty minutes, until three or four doses have been taken. Antikamnia and Codeine Tablets consist of 4¾ grains of Antikamnia and ¼ grain of Codeine, and have been especially brought forward for the treatment of pain where spasm or physical causes of irritation exist. Neuroses due to suppressed or irregular menses, particularly during the menopause, seem more amenable to this combination than to Antikamnia alone. Antikamnia and Codeine Tablets are especially indicated in membranous affections of the lungs, throat, and bronchi. Both tablets merit a trial in neuralgia and spasmodic ailments, and as their freedom from injurious action upon the heart and circulation is invariable, they will certainly continue to be received by the profession with favor.—*Edinburgh Medical Journal.*

---

*Messrs. Bovinine Co.:*

DEAR SIRS—I desire to send you this unsolicited testimonial. I regard Bovinine as one of the most valuable foods I have ever used in my practice, covering over thirty years. I have had most wonderful results in saving starving bottle-fed babies. As a dressing in old chronic leg ulcers, it has no peer. I have healed some very large, deep tubercular ulcers this past winter, which would yield to no other treatment. In deep seated abscesses and in traumatic lacerations, carbuncles, etc., my chief dependence is "Bovinine." I wish as a boon to humanity that every physician

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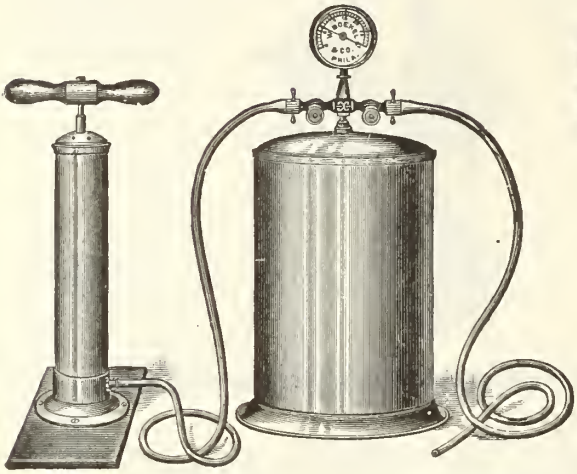
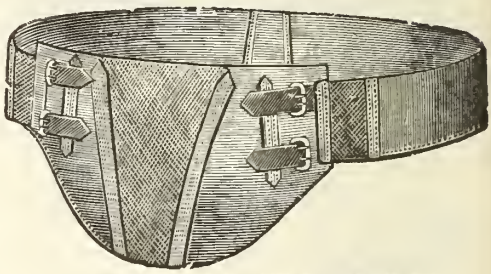
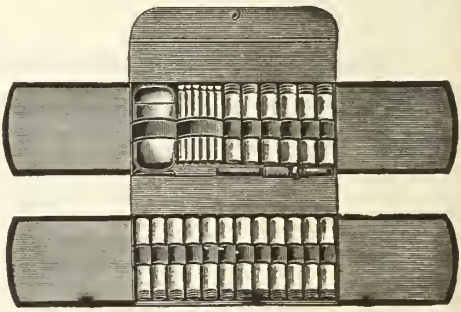


Spray Apparatus Complete with Tank, Pump, Tubing, set of 3 Davidson's Spray Tubes in Rack and Cut-Off, $21.50 net. Size of Tank, including Gauge, 10x28½. Tank and Pump finely nickel-plated.



Silk Elastic Abdominal Supporter, $3.00 Post-paid.
Give measurement around largest part of abdomen.



The Handsomest and most Practical Pocket Vial Case Made.
It contains six 4 dr., twelve 2 dr. screw cap vials, also twelve tubes for Hypo. Tablets, each tube capable of holding twenty-five tablets. One antiseptic, solid piston Hypo. Syringe, with two needles in metal case, also a self-registering Clinical Thermometer with Indestructible Index, and pocket for powder papers, etc.
Price complete, $5.00. Without Hypo. Syringe and Thermometer, $2.75.

**A. KUHLMAN & CO.,**
Manufacturers and Dealers in
Superior Surgical Instruments, Hospital and Physicians' Supplies, Elastic Stockings, Deformity Apparatus, Rubber Goods, Pharmaceuticals,
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Established 1867. Detroit Telephone 287. Michigan Telephone 287.


in America would use it in these troublesome cases. Very truly yours,

C W. PRICE,
President U. S. Board Pension Examiners,
Bath, Maine.

---

DETROIT, MICH., July 21, 1902.

In reply to your letter just received, would say that the Oldsmobile bought from you nearly two months ago is now entirely satisfactory. I had a little trouble at first, which I think was due to lack of information on my part. I am well pleased with my machine, and can recommend it to any one desiring an automobile for pleasure, commercial, or professional use, particularly in the city.

Yours truly,
J. F. HARTZ.

---

ACUTE GASTRIC CATARRH.—According to the writer the treatment should be based upon the use of an antiseptic which will destroy all pathogenic germs, and at the same time stimulate the walls of the stomach. The surface of the stomach is covered with a thick coat of stringy, tenacious mucus which is formed in large quantities, and the amount of normal gastric juice is very small, the acid often being almost entirely lacking. To remove this mucus from the walls of the stomach, Glycozone in teaspoonful doses, in water every two or three hours, is very effective, for the action of the glycerin is soothing to the membrane, and the nascent oxygen liberated destroys all the bacteria present, and also dissolves the mucoid material which acts as plugs to all the peptic glands. This should be used for the first day, and on the second day a little food should be given, it being a good plan to give about a teaspoonful of Hydrozone in a tumbler of water a half hour before meals. Hydrozone cleanses the stomach; then follow with Glycozone immediately after eating. The amount of discomfort following the use of Hydrozone is indicative of the progress of the disease, for in proportion to the amount of this excessive secretion of mucus the discomfort will be relatively larger, and as the secretions of the stomach approach the normal the discomfort will diminish. The acute symptoms as a rule disappear in a day or two, but there is still the inflamed condition, which requires treatment for a long time before a cure is accomplished. In addition to the treatment mentioned citrate of magnesia is often beneficial, and some of the natural aperient waters are soothing. The carbonated mineral waters are often very service-

**TORPIDITY OF THE LIVER** — For patients with torpid livers or sluggish action of the intestines, a wineglassful of HUNYADI JANOS, taken an hour before breakfast, acts like a charm, freeing them from the depression and discomfort from which they suffer.

**Hunyadi János** The Best Natural Aperient Water.

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1000 B BLANKS . . . . . $1.00
1000 BILLHEADS . . . . . 2.00
1000 URINE ANALYSIS BLANKS 1.50
This blank was prepared by L. N. Boston, M D., of the Medico-Chirurgical College, Philadelphia, from German authorities, and is the best in use in this country.
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able. The great treatment is rest, and the removal of all irritating material from the stomach, and if this is done the patient will be practically well in a very few days—J. S. MOREMEN, M.D., Louisville, Ky., in the *New Albany Medical Herald.*

---

THE adage that "the best is the cheapest" applies to almost everything that one may require. It applies without exception in the purchase of artificial limbs. The steeplejack will not make use of a cable unless he knows that it has been tested and proved to be capable of sustaining the weight that will be brought to bear upon it. The caisson worker will not descend below the bed of a river unless he is assured that the air pumps are in perfect working order. No more should the wearer of an artificial limb trust himself upon it unless proved material, skill, and honesty have entered into its construction.

The essence of success in walking with an artificial leg is confidence. To learn to manipulate the limb is a very simple matter, but unless the wearer knows that he can rely upon it as thoroughly as he would upon his natural legs he will never be able to walk well or to move about with a sense of perfect freedom. There are thousands of persons walking about to-day on Marks's artificial legs whose intimate friends are not aware that they have lost any of their natural members. They do not limp nor hobble, and they find not the slightest difficulty in moving about as freely as their most active neighbors—all because they have confidence; they know that every bit of material that enters into a Marks leg is carefully tested and proved before it is used, and that therefore it cannot possibly give way under ordinary use or at some critical moment when they most need its support.

---

COLUMBIANA CO., OHIO, Dec. 13, 1899.

*A. A. Marks*:

GENTLEMEN—It is now about two weeks since I received my arm for above elbow amputation, and have been wearing it every day since. I have already become so proficient in the use of it that I could not possibly get along without it. You told me that its use was much limited and its service principally for appearance. I find it more than that. It makes a great difference in the fitting of coats, and I use it in carrying small packages also. Yours very truly,

W. W. BAGLEY.

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FOR SALE.—A pleasant village residence, office, barn, large lot, with orchard and garden. Price reasonable (part cash), including introduction to immediate practice. Established twenty years. Wish to retire. Growing village, population 600 (more outside in township); has manufactories, good schools, churches, railroad, telephone. If business is intended, address Doctor, Box 1024, Warren, Ohio. 19

DOCTOR WANTED.—Chance of a lifetime. Kansas town of 700; large, thickly settled territory; practice $2500; only one other doctor. Will sell a two-room office furniture for $150. Must return East. Write quick. All letters addressed to M.D., Box 210, Plainville, Kas. 19

FOR SALE.—Unopposed practice, established 20 years, in a beautiful village in northwest Ohio. Fine farming country, good roads, collections exceptionally good. Churches, schools, and social community German and English. Going to city. Don't write unless you mean business. Address S. H. Sibert, M.D., Box 4, Fryburg, Ohio. 18

FOR SALE OR RENT.—Physician's residence with modern improvements, situated in the beautiful Holmdel Valley. No opposition. Good paying practice, $1800 a year. Reasons for selling given upon application. Address Dr. Fred V. Thompson, Holmdel, Monmouth Co., N. J. 18

WANTED.—A competent physician and surgeon, married, to take charge of private hospital. Address Dr. Louis Barth, Grand Rapids, Mich. 17

FOR SALE.—The oldest stand in northern Ohio, consisting of modern and roomy dwelling house, fine office and furniture, four acres of land, good barn, a good country practice in a live railroad village. Wish to retire. J. F. Grabill, M.D., Collins, Huron county, Ohio. 17

FOR SALE.—A good paying practice of seven years, in a town of about 800, in N. W. Iowa; good roads; good farming country; an up-to-date community, and very good pay. One other physician. Will sell for price of property, including home, office and barn, with all necessary fixtures. Best reasons for selling, will state to inquiring ones. Address C. M. McCaughan, Quenemo, Kansas. 15

WANTED. — A Canadian practitioner, single, with some means, licensed in New York State, desires responsible position in city private hospital, or to purchase the practice without property of retiring busy city physician. Address T. P. A., Medical Age.

FOR SALE.—At once, practice of $1,500 to $1,800 in village of 250, in splendid country. One other M.D. Want to go into specialty. Address Doctor, care of Alvin Pugh, Stockport, O.

WANTED.—Physician with $6000 cash to purchase my dividend paying stock in established medical corporation. Position as medical superintendent with salary and commissions of $300 per month guaranteed goes with the investment. Great chance for enterprising doctor. Best reasons for selling. Address Doctor, P. O. Box 853, Chicago, Illinois.

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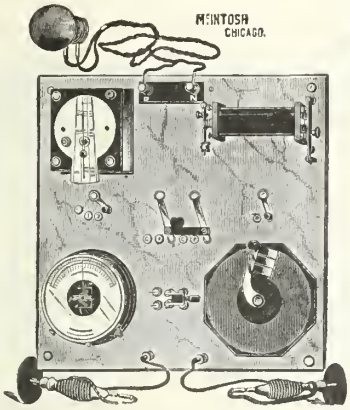
WANTED. — Second-hand surgical instruments and operating room supplies. Cleveland table preferred. All must be in good condition. Address "Surgical," care Journal.

FOR EXCHANGE —Clinical Atlas of Skin Diseases, by Robt. W. Taylor, M.D; Philadelphia: Lea Bros. Large colored plates, true to nature, with descriptive text. Half-morocco binding; cost $35. Will exchange for anything I can use: Small printing press, stereopticon, Ridpath's History of the World, or other books. Address, H. Erichsen, M.D., 240 Chandler Ave., Detroit, Mich.

FOR SALE.—If sold soon, $500 cash will buy a good, unopposed practice, including office and barn furnishings, drugs, instruments, etc., to the value of $400, in a beautiful village in Southern Michigan. Good pay, good roads, good society, fine farming country, and near summer resorts. Reason, ill-health. Address M. Newton, Benton Harbor, Mich.

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To the notes below and on the following pages, also in future issues, we respectfully direct your attention.

Very truly yours,
THE BUSINESS MANAGER,
Box 484, Detroit, Michigan.

I USED Pepto-Mangan (Gude) last spring in the case of a patient who had suffered for a number of months with chronic gastro-intestinal catarrh and severe diarrhea, and had been perceptibly reduced in strength and weight. The result was very encouraging, and since then the preparation has been continued and the patient has distinctly improved. The expectations of a complete cure of her trouble are very good. In my opinion this preparation is a very commendable remedy in all conditions of weakness, because it is so readily digested and so well tolerated.—DR. G. KIMMIG, Bad Petersthal, Schwarzwald.

DETROIT, MICH., June 7, 1902.

*Olds Motor Works, Detroit, Mich.:*

GENTLEMEN — Knowing that it will be interesting to you to know the good results that I have received from the Oldsmobile that I purchased from you a short time ago, I will give you the outline of a trip which I took Sunday last. Together with my son, I left Detroit Sunday morning and drove to Pontiac in one and three-quarter hours, after which we went to Orchard Lake and the surrounding lakes, where the roads were very sandy and in very poor condition. We pulled through without a mishap, returned to Pontiac, and came from Pontiac to Detroit in a shorter time than it took us to go to Pontiac, this being occasioned by the fact that it is slightly down-hill from Pontiac to Detroit. The machine had run seventy miles and had not been stopped once, excepting when we stopped it at the hotel and the lakes. Later in the evening we covered fifteen miles or more around Detroit, or nearly one hundred miles during the day. Neither my son nor myself claim to be experts in a mechanical way, and we believe that any one who will follow instructions and use good judgment in caring for his machine will attain equally as good results as do we. We are more than delighted with the machine and can heartily recommend the Oldsmobile.

Trusting that this experience will be of interest to you, I am,

Yours very truly,
JOHN E. PATTERSON.

* *
*

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The New York-Boston Reliability Run was the fairest test possible for the practicability of the Automobile.

Each machine had an equal chance, and each faced the same conditions.

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The pioneer runabout was the only one of the thirteen starters to complete the course,

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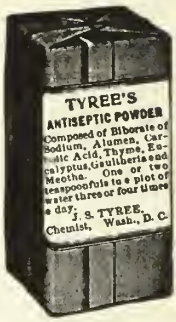
TYREE'S
ANTISEPTIC POWDER
Composed of Biborate of Sodium, Alumen, Carbolic Acid, Thyme, Eucalyptus, Gaultheria and Mentha. One or two teaspoonfuls to a pint of water three or four times a day.
J. S. TYREE,
Chemist, Wash., D. C.

A powder, very inexpensive, which, when dissolved in water, makes a pleasant, non-irritating, non-poisonous lotion, not staining the linen, and which has a

## SPECIFIC ACTION

against those peculiar pathogenic germs which infest the genito-urinary organs (male as well as female); hence is a never-failing remedy for

## LEUCORRHEA, GONORRHEA and GLEET

If intelligently used according to directions, it will CURE all cases, including the acute cases and the stubborn chronic ones as well.

Also very effective in Pruritus of the genital regions. The formula is given, and the preparation is advertised in a strictly ethical way to the medical profession only.

A 2-oz. box of Pulv. Antiseptic Comp. (enough to make two gallons of antiseptic lotion) will be sent, once only, for 10 cents, if you mention this journal. (This would make about seven dollars' worth of the usual bottled antiseptic solutions.)

**This is all pure capital—you pay for no water.**
**You can take it with you—no liquids to carry.**

# J. S. TYREE, Chemist, WASHINGTON, D. C.


and that, too, without a penalized stop, thus winning the highest possible award—the President's Cup.

Take the Auto-Surgeon's advice, and for General Oldsmobility use an Oldsmobile.

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Our readers' attention is particularly called to Wm. Sedgwick's advertisement of Brass and Swing Signs on page 25 of this issue. The brass signs are engraved by hand filled with the best black enamel. The new swing signs are made entirely of metal strongly riveted together, enameled black, and baked; they are lettered with the white enamel letters, aluminum, gold or silver glass letters, or in gold leaf.

Also write him if you are in need of window lettering. Mr. Sedgwick carries the largest and most varied stock of sign letters in the United States. Price list mailed on application.


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Follicular Tonsillitis.—In this disease, so common among young children, Glyco-Thymoline (Kress) may be employed with advantage. Its exosmotic properties are extremely serviceable in reducing the size of the swollen glands. The enlargement is apt to subside slowly, even after the active stage of the inflammation has passed. Children who are old enough to gargle may employ the remedy in this manner. In those too young it may be applied upon absorbent cotton. Representative cases are:

*Case 1.*—A boy, eleven years of age, had suffered for a day from headache and fever, with pain in swallowing. Both tonsils were red and swollen, especially the right, which was studded with patches of exudation from the crypts.

*Case 2.*—A girl, aged fifteen years, had had a chill twenty-four hours previously, her throat felt sore, and it pained her to swallow. The glands of the neck were swollen and there was fever. Both tonsils were considerably enlarged. The crypts were exuding their characteristic discharge.

*Case 3.*—A young woman, nineteen years of age, was attacked by vertigo and lost consciousness. Twelve hours later both tonsils were found greatly swollen, almost meeting in the middle line. The cervical glands were moderately enlarged. The surface of the tonsils was dotted by exudation.

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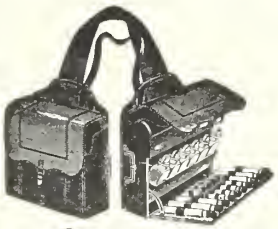

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SPECIALLY VALUABLE IN
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CYSTITIS—URETHRITIS—PRE-SENILITY.

DOSE:—One Teaspoonful Four Times a Day.

OD CHEM. CO., NEW YORK.

These three cases were all treated successfully with Glyco-Thymoline (Kress) as described above.—Geo. A. Hewitt, M.D., Philadelphia, Pa.

---

Sanmetto in Gonorrhea, Cystitis, Prostatitis, Irritable Bladder, Incontinence of Urine, and in Sexual Neurasthenia and Presenility.—I have prescribed Sanmetto for the past six years, and find it quite agreeable to the patients, being very pleasant to take and of great utility in the treatment of a large number of cases frequently met with in general practice. It has given me uniformly good results in all stages of gonorrhea, cystitis, prostatitis, irritable bladder, and incontinence of urine. I have also found it of great value in sexual neurasthenia, and much more satisfactory as an aphrodisiac than any drug I have employed during my twenty six years of practice.—Wm. Parsons, M.D., Chicago, Ill.

---

Membranous Complications (Throat, Bronchi, and Lungs)—Under the above heading we find the following by Walter M. Fleming, A.M., M.D., New York City, in the September number of the *Medical Era:*

"With all the experience of more than a quarter of a century in the treatment of a winter-cough, and its complications of laryngeal, bronchial, and pulmonary irritability, also dyspnea, asthmatic spasms, and finally whooping-cough—usually the most persistent and tenacious of all of these membranous maladies—I find no one remedy more strongly indicated, or which yields more prompt and satisfactory results, than Antikamnia and Heroin Tablets, composed of Antikamnia 5 grains and Heroin Hydrochloride 1-12 grain. The purpose of this combination is manifest at once, for it provides, primarily, a respiratory stimulant; secondly, a soothing sedative to the irritable mucous membrane; and thirdly, an antipyretic and analgesic. Result: A prompt and efficient expectorant, which at once relaxes the harsh and rasping cough, and releases the tenacious, sticky, and gelatinous mucus, while its soothing influence is at once manifested, greatly to the comfort and contentment of the patient."

---

An old deacon was told he would have to take brandy or he would go into fits. He replied he would try a few fits.

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X-RAY

Our portable X-Ray apparatus in mahogany finished cabinet, 18x24x30 inches, can be **taken to patient's bedside.** In addition to X-Ray **therapeutic** and **diagnostic work,** a switch-board attachment enables the physician to do **galvano-cautery lamp, magnet work,** the **static breeze, spray** or **spark,** in all kinds of weather. All of above under Rheostatic control.

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WESTERN AGENTS FOR QUEEN & CO., PHILADELPHIA.

I feel a good deal that way in regard to Epsom salts, whose taste to me is the most vile of any medication that ever passed my lips, although I am aware that many people do not mind it, but those who do will find that in Abbott's Saline Laxative the unpleasant taste is almost entirely taken away, without impairing in the least the efficacy of this matchless saline. Taken in a full glass of cold water before breakfast, it acts once, within two hours, and no more—just enough and no more—while other salines keep you worrying all day long. But any one who is indisposed to pay the fraction of a cent for these advantages had better stick to the crude salts.

---

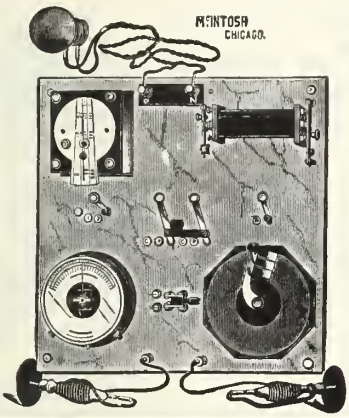
For shaking palsy nothing excels tinct. Æsculus Glabra, one half drachm, Celerina, eight ounces. Teaspoonful every two or three hours.

---

The Action of Digitoxin.—Dr. F. Curioni (*La Clin. Med. Ital*, 1901, No. 11) instituted experiments with digitoxin Merck at the Turin Medical Clinic, and he reports the following results: In cases of pronounced cardiac insufficiency digitoxin produces not only an improvement in the pulse, but also an increase in the arterial blood pressure. The maximum effect becomes apparent four to five hours after the administration. In reference to the dosage, the individual tolerance must first be ascertained, and it is therefore best to commence with $\frac{1}{120}$ grain (½ milligramme). Such doses remove the dicrotism, make the pulse full and strong, and prolong the diastole. Doses of $\frac{1}{80}$ grain also raise the blood pressure. In severe, chronic disease of the heart muscle, where drug habituation usually exists, doses of $\frac{1}{60}$ grain may be used with good effect. The advantages which digitoxin possesses over digitalis are its greater efficiency and greater promptitude of action.

---

Too often in the care and treatment of cases that are especially of the nervous type, and have become chronic in their condition, we find an exacting, controlling element on their part, which renders their home care a great burden to their friends and relatives, and a source of unsatisfactory treatment by their physician. This element of domineering may not be intentional on the part of the patients; it may have gradually crept in from their sufferings, or from the well meant but overly anxious care of their relatives. No matter where it comes from, all physicians

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Within the 40 pages of text of the AGE, not a single line of advertising is ever printed. There are no advertising inserts; no commercial notes of any description whatsoever. We regard each subscription as a contract with the physician to furnish him semi-monthly with 40 pages of the most reliable information that can possibly be collated.

Guarding your rights along these lines as carefully as we do, we beg of you to read the announcements of our advertisers, and favor them with inquiries and requests for samples; and when so doing, please be so kind as to mention having seen the advertisement in the MEDICAL AGE.

To the notes below and on the following pages, also in future issues, we respectfully direct your attention.

Very truly yours,

THE BUSINESS MANAGER,

Box 484, Detroit, Michigan.

THE Antikamnia Co. have exhibited their refined taste in their Calendar for 1903. This is entitled "His First Temple Offering," and is a reproduction of another of Helen Hyde's famous paintings. It is the companion to their 1902 Calendar, "Her First Picture Book." We appreciate very highly the copies just received.

PROF. MORRIS MANGES, of New York (*New York Medical Journal*), who has made a most extensive clinical study of Glyco-Heroin, writes as follows: "In allaying cough this remedy was very prompt and efficacious in a large number of cases. The relief usually followed within half an hour after taking the medicine. The cases were of the most varied kind, including acute and chronic bronchitis, emphysema, bronchiectasis, pulmonary tuberculosis, pleurisy (acute, dry, and with effusion), coughing after anesthetics, pneumonia, etc. In some of these cases the relief was most surprising, being obtained where codeine and other drugs had failed. Equally good results were obtained in cases of asthma; indeed, the only case in which absolutely no relief followed was one of dyspeptic asthma.

"A striking reduction of the temperature was observed in quite a number of tuberculosis patients treated with this remedy, the average fall being one degree (F.). This can be demonstrated not alone with the thermometer, but the patients also notice it themselves, saying they are not so warm; and in some cases they report that night sweats are lessened or cease."

DR. KLINK (*Münchener Medizinische Wochenschrift*): "Since its introduction into medicine, drugs like the nitrites, stramonium, and even potassic iodide, have largely been supplanted."

DR. HEINRICH MOHR, of Bielefeld, Germany, in a paper entitled "Modern Treatment of Infected Wounds," published in *Die Medicinische Woche*, Berlin, June 10 and 17, 1901, says that he has treated a large number of wounds of the most varying nature that were supposed to be infected, or showed distinct signs thereof, with Glutol. In fresh and presumably infected wounds infection did not appear, even without other disinfectant measures; and the strikingly fresh, soft appearance of the edges of the wound or the flaps, and the absence of all irritation, were remarkable. Other measures, such as the use of mercurials, will prevent infection; but the irritation of the wound and its neighborhood is marked. Some ointments render the wound torpid and sluggish. The wounds treated with Glutol, on the other hand, are characterized by healthy granulations. The results obtained favor Schleich's assumption that Glutol has a lasting antiseptic effect,

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TYREE'S
ANTISEPTIC POWDER
Composed of Biborate of Sodium, Alumen, Carbolic Acid, Thyme, Eucalyptus, Gaultheria and Mentha. One or two teaspoonfuls to a pint of water three or four times a day.
J. S. TYREE,
Chemist, Wash., D. C.

A powder, very inexpensive, which, when dissolved in water, makes a pleasant, non-irritating, non-poisonous lotion, not staining the linen, and which has a

## SPECIFIC ACTION

against those peculiar pathogenic germs which infest the genito-urinary organs (male as well as female); hence is a never-failing remedy for

## LEUCORRHEA, GONORRHEA and GLEET

If intelligently used according to directions, it will CURE all cases, including the acute cases and the stubborn chronic ones as well.

Also very effective in Pruritus of the genital regions. The formula is given, and the preparation is advertised in a strictly ethical way to the medical profession only.

A 2-oz. box of Pulv. Antiseptic Comp. (enough to make two gallons of antiseptic lotion) will be sent, once only, for 10 cents, if you mention this journal. (This would make about seven dollars' worth of the usual bottled antiseptic solutions.)

**This is all pure capital—you pay for no water. You can take it with you—no liquids to carry.**

# J. S. TYREE, Chemist, WASHINGTON, D. C.


without injuring the activity of the cell, or interfering with the normal process of healing.

As an example Mohr instances the case of a knife-cut of the palm, which came to him bound up with a dirty rag four hours after the injury. He simply disinfected the surrounding surface, and filled the wound up with Glutol. On changing the dressing after four days there was no trace of infection; the wound was fresh, the fissure was filled up with blood coagulum, due to oozing after the first dressing, and with no trace of decomposition. Though the most favorable conditions for the development of bacteria existed, the disinfecting properties of the Glutol had sufficed to effect perfect asepsis.

In suppurating wounds more especially, the growth of fresh granulations is preceded by a stage in which the dry surface is covered with a yellowish-gray, fibrin-like coating of dissolved Glutol, looking very much like an infection; but the general good health, the non-reaction of the surrounding parts, and the absence of other symptoms prevent mistake.

---

THE Denver Chemical Co. are sending to every physician in the United States, Canada, and England a Christmas folder which is very original in its design. On the address side is a cut illustrating an original package of Antiphlogistine. This is in white on a green background, and affords space for the address. The inside contains a Calendar and Christmas greetings. Altogether it is very neat and tasteful.

---

EVERY CLINICIAN BECOMES A HISTORIAN.—Lord Macaulay briefly epitomized history as the "Record of Events." Be it so. The pleasant task of collection and verification of data falls upon the historian, who retells in an interesting and enthusiastic manner the lives and acts of others.

In medical history, as in secular, the value of an epoch often rests upon the work of the individual, and the true portrayal of one incident in life lends color to the complete narrative. Acts not words illustrate the advance of progress in science and literature.

The desire of one person to know precisely why another individual preferred certain methods to old-established forms necessitated history. What you do and tell to-day, if approved, your fellow man will perform to-morrow. Therefore the discovery of an aid to the burden of work-a-day life is more important than determining a new chemic element. One helps the masses; the other

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CYSTITIS—URETHRITIS—PRE-SENILITY.

DOSE:—One Teaspoonful Four Times a Day.

OD CHEM. CO., NEW YORK.

invites speculation from the few. History thus recites incident. Incident depicts facts, and facts destroy theories, as the following abstract convincingly states:

We had here a most formidable state of things to deal with: A woman in child-bed, with every indication of septicemia—a double pneumonia, probably of septic origin, with constant pain in hip and lumbar region, with persistent vomiting and diarrhea, temperature 105°. A large tympanitic abdomen, small wiry pulse, cyanosis with finger-nails quite purple. Dr. Tibbetts several times informed me that I could look for a fatal termination, so extreme was the case. . . . . the best thing to do was to curette, which was done, and followed by hot bichloride douches. . . . . no abatement in temperature. Morphine had to be given hypodermically to comfort patient, besides strychnine, cactus, brandy, digitalis, to support the heart's action. Just here I must say that I administered antistreptococcic serum with very gratifying results. We also used injections of salt solution. I believe the benefit from these injections was more lasting than from those of serum. Antiphlogistine was applied over hip, lumbar nerves, and sciatic nerve. This agent (Antiphlogistine) was our mainstay in the treatment of both lungs besides. The abdomen became as large as before confinement, hard and resonant on palpation. Antiphlogistine was therefore spread all over the abdomen. I know of no preparation that has been brought to the attention of the profession of late years deserving of higher praise in all inflammatory conditions, no matter in what locality such may be seated. Poultices have been abandoned by the writer since the adoption of its use.

THE DR. C. E. SAWYER SANATORIUM, Marion, Ohio.

Capacity, one hundred guests, A scientific institution for the treatment of Chronic Diseases, Cripples and Deformities. A homelike place for rest and recuperation, Modern conveniences, skilled physicians, trained nurses, experienced assistants. Whatever is indicated in medicine, surgery, hydrotherapeutics, electro-therapeutics, massage, mechanical treatments, orthopedic apparatus. Rates reasonable. References supplied. Correspondence solicited. Descriptive house book furnished on application.

Puerperal septicemia complicated by septic double pneumonia; abscess of thigh. Recovery.—C. C. PARTRIDGE, M.D., in *American Surgery and Gynecology*, October, 1902.

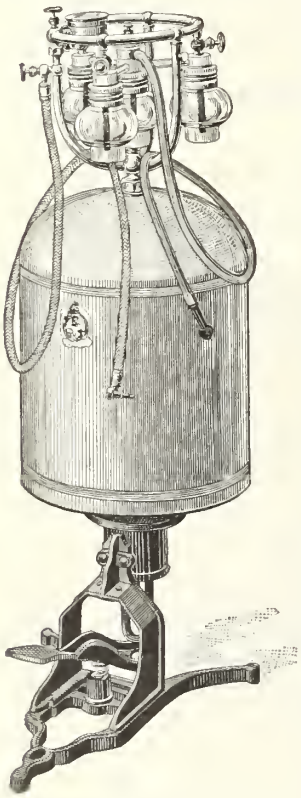
Had it not been for Antiphlogistine, what would have been the result of the case? Again, had it not been for Antiphlogistine, what pleasure would the attending physician have in making a public record of his case?

The inference is marked. Here is a patient *in extremis* with the entire 900 official remedies of the Pharmacopœia at the disposal of consultant and attendant. Every surgical

and medical accessory available, and yet one pharmaceutic preparation proves adequate to the emergency. Demonstrating beyond criticism that Antiphlogistine should be applied in every process of inflammation; that Antiphlogistine relieves blood pressure tension by induction of osmosis and dialysis.

---

INVALUABLE AIDS IN RESPIRATORY TROUBLES.—The Physicians' Standard Supply Co., of Philadelphia, are makers of Nebulizers, Vaporizers, Atomizers, Air Pumps, Air Receivers, Nebulizing Fluids, Hydraulic Air Compressors, and various other articles and implements which help to make up the armamentarium of the modern physician. In many respects they are pioneers in the field which they occupy. This is particularly true of the Nebulizer, which they first introduced to the medical profession of this country, through Ernest J. Stevens of their company, some ten years ago. The Stevens Universal, the Century No. 5, and the Standard Nebulizers are familiar names not only to physicians and others of the United States, but also of Canada, Great Britain, and many other foreign countries. These Nebulizers can be operated with hand bulb, foot pump, or air condenser. They are extremely convenient for home as well as office treatment, as all classes of remedies can be effectually applied in diseases of the nose, throat, middle ear, bronchial tubes, lungs, etc., at home, on physician's prescription. They are not complicated, do not get out of order, and are easily operated even by children.

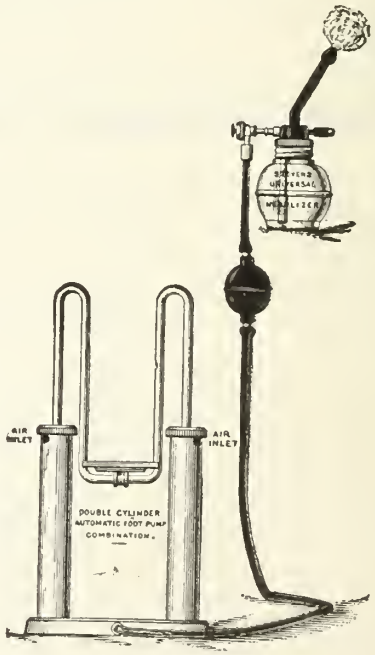


Multi-Nebulizer, with Foot Pump and Air Receiver Attachments.

One of the illustrations which appear in this connection shows one of the popular Nebulizers of the Physicians' Standard Supply Co.'s manufacture, together with their latest improved Nebulizer Inhaling Mask. The face mask, which is made of either pressed non-breakable glass or nickel-plated brass, as preferred, may be attached to any nebulizer, vaporizer, or atomizer, etc. It is of especial advantage when the medicine is strong or stimulating, and is more healthful and cleanly than the straight or ordinary mouth and nose pieces, particularly when more than one person is to use the same instrument.

The Multi-Nebulizer which they handle represents another advanced step. This instrument, while of comparatively recent introduction, has also met with pronounced approval by the medical profession. We present an illustration of the Multi-Nebulizer, with their Foot Pump Air Receiver outfit, the latter being one piece of cold-drawn seamless steel.

The Physicians' Standard Supply Co. are doing another good work in the preparation of a select and popular list of nose, ear, throat, and lung solutions for office and prescription use. These solutions embody the choicest prescriptions of many eminent physicians and specialists, and care is taken that their ingredients shall be of the highest possible grade.




Foot Pump and the Stevens Universal Nebulizer.

The practical utility of the firm's Double-cylinder Automatic Foot Pump, an illustration of which we are pleased to present, is readily apparent. This attachment, which is

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the first of its kind ever offered to the profession, is arranged to connect with any nebulizer, atomizer, or inhaler, or may be used wherever power is needed—in office, shop, or home. Fresh air is drawn in at the top of the pump, and a continuous current,

The Stevens Universal Nebulizer, with Inhaling Mask.

either gentle or powerful, is produced. This foot pump is simple of construction, strong and durable, and should last a lifetime. It is operated easily by the foot, either sitting or standing. Compact, practical, inexpensive, it would seem to be at once a convenience and a necessity.

The Century Pocket Inhaler, also manufactured by this company, is a mechanical aid to deep breathing, a very useful little article which does not in the least interfere with any other treatment, and which may be used at times when the nebulizer may not be convenient. It forces pure air into the unused cells of the lungs, expands those that may have been wholly or partially collapsed, and strengthens the bronchial tubes and the various air-passages of the lungs. It has a very beneficial effect upon the throat and vocal organs, rendering them stronger and greatly increasing their elasticity.

There are numerous other articles of the firm's manufacture which might be singled out as eminently worthy of notice. We would suggest that our medical friends write to the company for their illustrated literature descriptive of instruments for respiratory troubles. Their booklet, which we understand is just about to issue from the press, contains much valuable information and will be sent to physicians free on request. Inquiries should be addressed to the Physicians' Standard Supply Co., at their head offices, 301–302–303 and 317 Odd Fellows' Temple, Philadelphia, Pa.

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FOR SALE.—A pleasant village residence, office, barn, large lot, with orchard and garden. Price reasonable (part cash), including introduction to immediate practice. Established twenty years. Wish to retire. Growing village, population 600 (more outside in township); has manufactories, good schools, churches, railroad, telephone. If business is intended, address Doctor, Box 1024, Warren, Ohio. 19

DOCTOR WANTED.—Chance of a lifetime. Kansas town of 700; large, thickly settled territory; practice $2500; only one other doctor. Will sell a two-room office furniture for $150. Must return East. Write quick. All letters addressed to M.D., Box 210, Plainville, Kas. 19

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FOR SALE OR RENT.—Physician's residence with modern improvements, situated in the beautiful Holmdel Valley. No opposition. Good paying practice, $1800 a year. Reasons for selling given upon application. Address Dr. Fred V. Thompson, Holmdel, Monmouth Co., N. J. 18

FOR SALE.—A good paying practice of seven years, in a town of about 800, in N. W. Iowa; good roads; good farming country; an up-to-date community, and very good pay. One other physician. Will sell for price of property, including home, office and barn, with all necessary fixtures. Best reasons for selling, will state to inquiring ones. Address C. M. McCaughan, Quenemo, Kansas. 15

WANTED. — A Canadian practitioner, single, with some means, licensed in New York State, desires responsible position in city private hospital, or to purchase the practice without property of retiring busy city physician. Address T. P. A., Medical Age.

FOR SALE.—At once, practice of $1,500 to $1,800 in village of 250, in splendid country. One other M.D. Want to go into specialty. Address Doctor, care of Alvin Pugh, Stockport, O.

WANTED.—Physician with $6000 cash to purchase my dividend-paying stock in established medical corporation. Position as medical superintendent with salary and commissions of $300 per month guaranteed goes with the investment. Great chance for enterprising doctor. Best reasons for selling. Address Doctor P. O., Box 853, Chicago, Illinois.


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**Tyree's Improved Litmus Pencil** is always reliable. Will detect one part in a hundred thousand. Carry Tyree's Pencil in your pocket, and you can make at all times a piece of the best litmus paper at a moment's notice. Price, 25c. by mail.

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***Publisher.***


WANTED. — Second-hand surgical instruments and operating-room supplies. Cleveland table preferred. All must be in good condition. Address "Surgical," care Journal.

FOR EXCHANGE.—Clinical Atlas of Skin Diseases, by Robt. W. Taylor, M.D.; Philadelphia: Lea Bros. Large colored plates, true to nature, with descriptive text. Half-morocco binding; cost $35. Will exchange for anything I can use: Small printing press, stereopticon, Ridpath's History of the World, or other books. Address, H. Erichsen, M.D., 240 Chandler Ave., Detroit, Mich.

FOR SALE.—If sold soon, $500 cash will buy a good, unopposed practice, including office and barn furnishings, drugs, instruments, etc., to the value of $300, in a beautiful village in Southern Michigan. Good pay, good roads, good society, fine farming country, and near summer resorts. Reason, ill-health. Address M. Newton, Benton Harbor, Mich.